Texas State Journal of Medicine

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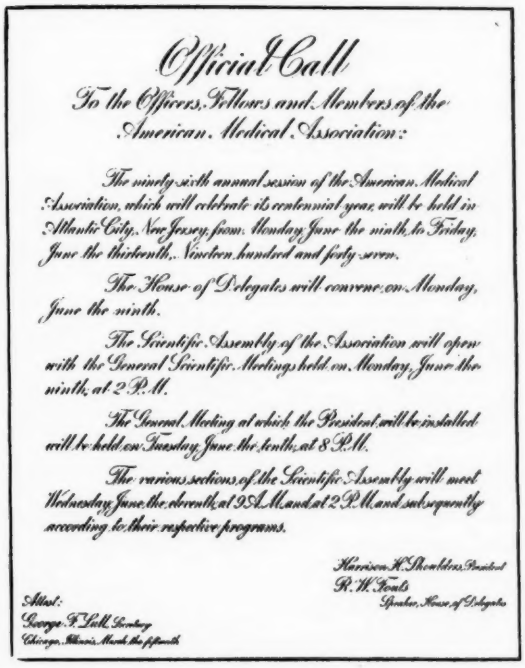
DEVOTED TO THE INTERESTS OF THE MEDICAL PROFESSION AND PUBLIC HEALTH IN TEXAS

The Annual Session of the American Medical Association, as has heretofore been announced and called to the attention of our readers, will be held in Atlantic City, N. J., June 9-13, 1947. This has been denominated "The Centennial Meeting," marking the one hundredth birthday of the organization. However, it is the ninety-sixth annual session, a difference without distinction, and, incidentally, the twelfth meeting held in Atlantic City. This country of ours is not so old that one hundred year anniversaries of either people or organizations can go by without notice. The House of Delegates of the Association, at its last annual session, determined to make the event one long to be remembered, and it so far has done exactly that. A postage stamp has been issued commemorating the occasion. The stamp will go on sale June 9, at the beginning of the annual session.



Official Call

To the Officers, Fellows and Members of the American Medical Association:

The ninety-sixth annual session of the American Medical Association, which will celebrate its centennial year, will be held in Atlantic City, New Jersey, from Monday, June the ninth, to Friday, June the thirteenth, Nineteen hundred and forty-seven.

The House of Delegates will convene on Monday, June the ninth.

The Scientific Assembly of the Association will open with the General Scientific Meetings held on Monday, June the ninth, at 2 P. M.

The General Meeting at which the President will be installed will be held on Tuesday, June the tenth, at 8 P. M.

The various sections of the Scientific Assembly will meet Wednesday, June the eleventh, at 9 A. M. and at 2 P. M. and subsequently according to their respective programs.

Harrison H. Brockbank, President
R. W. Fouts
Speaker, House of Delegates

Attest:
George F. Lull, Secretary
Chicago, Illinois, March the fifteenth

During the past several months, as is well known to our readers, special broadcasts have gone out over the N.B.C. Network, commemorating special events occurring during the past one hundred years in the field of medicine, and involving characters of importance in the history of the times who happened to be men of medicine. On April 26 of this year, the broadcast featured Dr. Anson Jones, the last President of the Republic of Texas. Similar broadcasts were devoted to distinctive regions throughout the country involved in the development of the history of medicine and the history of the country. The American Medical Association has in the meantime caused to be published a history of the Association. It has been running serially in *The Journal of the American Medical Association,* and will be published in volume form by the time of the Atlantic City meeting. Indeed, the committee in charge of the centennial celebration has done well, and will continue to do so until the task has been completed with the adjournment of the Atlantic City meeting.

It is not possible to refer here to the various outstanding and interesting events which will take place at the meeting. For

details of the sort, reference should be had to the May 3 and May 10, 1947, numbers of *The Journal of the American Medical Association*. The full program, including many reports that are to be made to the House of Delegates, will be found in these numbers. It will be noted that Texas is entitled to five Delegates. Only two Delegates are listed, because of the fact that the other three had not been elected when the list was published. Drs. Holman Taylor, Fort Worth; F. J. L. Blasingame, Wharton; H. R. Dudgeon, Waco; B. E. Pickett, Sr., Carrizo Springs, and E. H. Cary, Dallas, are the Delegates of the State Medical Association of Texas. In addition to these, the following Texas doctors will represent Scientific Sections: Dr. Charles T. Stone, Galveston, Section on Internal Medicine; Dr. C. F. Lehmann, San Antonio, Section on Dermatology and Syphilology, and Dr. H. E. Griffin, Graham, Section on General Practice of Medicine.

A consideration of the utmost urgency in connection with the meeting is the matter of hotel accommodations, and as for that, transportation. There are a multitude of very fine hotels in Atlantic City, and no other convention is being held there at the time, but there are a multitude of doctors, their families and friends, who plan to attend the meeting. It is probably out of the question to get accommodations at the hotel of choice at this late date, but a letter to Dr. Robert A. Bradley, 16 Central Pier, Atlantic City, N. J., Chairman of the Committee on Hotel Reservations, will get results. Not all of the desirable hotels in Atlantic City are on the Boardwalk. There are many such hotels within a block or so of the Boardwalk.

The little matter of transportation is worthy of early consideration. Railroads are finding it difficult to assemble enough equipment for several conventions to be held on the Atlantic Seaboard early in June. The air service has the same problem, of course. It would be wise to arrange for the desired accommodations as far in advance as possible.

The Bureau of Registration will be located on the Arena Floor of the Atlantic City Convention Hall. Only Fellows of the American Medical Association can register at the annual sessions of the Association, but any member of any county medical society can become a Fellow, even at the place of registration, by presenting his state medical association membership card, and paying the relatively insignificant sum of $8, for which sum, incidentally, he will receive either *The Journal of the American Medical Association*, the greatest medical journal in the world, or one of the other publications of the Association, of which there are several, covering practically the entire field of the specialties. As a matter of fact, many of our members are now subscribers for one or more of these publications, and are not Fellows of the American Medical Association. All that such a subscriber needs to do in such a case, is to write to Dr. George F. Lull, Secretary, 535 North Dearborn Street, Chicago, 10, and ask that his name be transferred from the subscription list to the Fellowship list. It will cost nothing extra. Many of our members who are not subscribers to *The Journal of the American Medical Association*, and who expect to attend the Atlantic City annual session, should write to Dr. Lull at once, requesting Fellowship and enclosing check for $8. Fellowship will be set up at once, if the records so justify, and the member will receive his Fellowship Card and have it for use upon arrival at Atlantic City. Indeed, there is a way to register for the annual session by mail. A letter to Dr. Lull about that matter will get results.

Apparently the Scientific Assemblies at Atlantic City will present programs of great interest and incalculable value. A special effort has been made to do just that, because of the occasion. The activities of the session, as a matter of fact, begin on Saturday, June 7, at which time the American Medical Association will be host at a dinner to representatives of many related professions, industries, and leaders in American life. On Sunday, June 8, at 11:30 in the morning, a notable and special religious service will be held in the great Convention Hall. Protestant, Jewish, and Catholic clerics of great distinction will speak.

During the afternoon on Sunday, a Conference of County Medical Society Officers will be held, at which meeting an effort will be made to get down to the grass roots of the organization. The officers of county medical societies throughout the country have been urged to attend. Dr. May Owen, Medical Arts Building, Fort Worth, is the Chairman for Texas. It is expected that the county medical societies of other states, and it is hoped of Texas, will be well represented at this conference, and that, if it is needed, something will be started; at least, the charge made by many that the leaders of our national organization are wont to stray far from the field and fold, doubtless will be given the air.

For the opening general meeting on Tuesday night, in the great Convention Hall, at which meeting the President delivers his annual address, music will be furnished by the Philadelphia Festival Orchestra, conducted by Alexander Hilsberg, known and respected by all lovers of music.

The Woman's Auxiliary of the American Medical Association will also hold its meetings during the week. Their headquarters will be at Haddon Hall, one of the most desirable hotels on the Boardwalk. This is an important matter, as the Woman's Auxiliary has a membership now of approximately 30,000 members.

The entertainments scheduled for this annual session are also notable, including, as they do, both intellectual and spiritual enrichment and relaxation.

Not the least of the advantages of attending the Atlantic City meeting of the American Medical Association is the opportunity of lingering a while in one of the great medical and clinical centers so abundant in that section of the country.

The Resignation of Dr. Olin West, President-Elect of the American Medical Association has been announced. It will be recalled that Dr. West was for many years Secretary and General Manager of the American Medical Association, and that he retired from that position early in 1946, because of his health. Dr. West was held in such high esteem by his fellows in the Association, that he was persuaded to accept the high office of President-Elect, at the San Francisco meeting of the Association, last July. It now appears that his health will not permit him to continue in that office, in spite of the help he knows he can get from his confreres. This is a real calamity, even though we know that his work will go on. Competent successors are inevitably arranged for, for any of us, but to one so well loved and so much depended upon as Dr. West has been through the years, it is not easy to agree that he step aside. No matter what betide, we are hopeful that his health is better than he thinks it is, and that he will be with us yet a long while.

Perhaps it would be fitting that we publish here the text of his resignation, which we take from *The Journal of the American Medical Association:*

"Because of continued and possibly permanent impairment of health, I feel compelled to submit to the Board of Trustees, through you as its chairman, my resignation as President-Elect of the American Medical Association, to take effect immediately.

"I take this step with the greatest possible regret, because of having been signally honored by the action of the House of Delegates in electing me to this high office, as well as because of my devotion to the Association and to its ideals. It has been my earnest desire and my strongest intention to do all that I could do to promote the great cause that the Association has served so well for nearly one hundred years. I sincerely hope that even as an humble member in the ranks I can make some small contribution toward the success of the very worthy aims of our great society.

"I am now firmly convinced that I cannot properly perform the duties of President-Elect and, later, those imposed on the President and that, in all fairness to the Association, my resignation should be submitted and officially accepted.

"It now seems probable that I shall not be able to attend the Centennial Session to be held in Atlantic City, in which case I hope you, as Chairman of the Board of Trustees, will present my apologies for my failure in office. I hope that the House of Delegates will believe that 'the spirit was willing but the flesh was weak.'

"I have an abiding faith in the A.M.A. and in the sincerity, integrity and soundness of judgment of those who have served and now are serving as members of its official bodies. May the richest of blessings come to all of them!"

CURRENT EDITORIAL COMMENT*

Endometriosis—Endometriosis is a most pernicious and ruthless disease. It has been described as "the presence of ectopic tissue which possesses the histological structure and function of the uterine mucosa." Like the Englishman who, wherever he may be, is still an Englishman and must have his afternoon tea, so this bit of ectopic tissue, be it in the umbilicus or in the recto-vaginal septum, is still endometrium and will try to menstruate when the time comes.

Endometriosis is ruthless and pernicious because it strikes woman in the prime of life, not only limiting or destroying her ability to conceive and bear children but condemning her also to months and years of crippling and painful disability. It is the cause of more than 10 per cent of pelvic laparotomies. It afflicts good private patients much more often than their economically less fortunate sisters of the public wards.

Types of endometriosis are the internal, which involves the uterine muscle from within (adenomyosis), and the external, which attacks the serous surface of the uterus and adjacent organs or tissues. Of the two types the latter is the more common and causes the most trouble. Sites most often involved by the external type are the ovaries, uterus, cul-de-sac, and ligaments of the uterus. Abdominal adhesions and intestinal obstruction are not uncommon complications. The lesions range from small inky-black spots to dense adhesions and large chocolate cysts.

Endometriosis is a fascinating disease because its etiology is still by no means clear. The most generally accepted theory of its origin is that of Sampson, who ascribed the lesions to a backfiring of Muellerian mucosa (uterine or tubal) into the pelvis by a sort of retrograde menstruation. Meigs suggests that menstruation through many years without the interruption of pregnancy is the cause

*This department of the JOURNAL presents editorial comments on current items pertaining to the science, art and practice of medicine, contributed by members of the State Medical Association and scientists closely associated with the medical profession of Texas. Invitation is hereby extended to any member of the State Medical Association of Texas to submit such discussions for this department. The discussions should not be more than 500 words in length.

of endometriosis. In these days of planned parenthood and small families the relatively high incidence of this disease in the upper strata of society might lend credence to this theory. The matter of etiology remains a moot question.

The most constant symptom of endometriosis is pain. The pain, at first related to menstruation, later becomes a daily affair. A history of an acquired dysmenorrhea is very suggestive of endometriosis. Other symptoms are excessive menstrual bleeding, sterility, and, rarely, bleeding from the rectum. Sterility may run as high as 40 per cent, but pregnancy does occur in the presence of endometriosis.

The diagnosis is made by a history of the above symptoms in a woman in the age of menstrual activity, with findings on pelvic examination of a shotty induration of the cul-de-sac, uterosacral ligaments, or posterior surface of a retroverted uterus. The examination is usually painful.

Endometriosis is cured by ablation of the ovaries, but here as elsewhere in medicine one must take care that the cure be not worse than the disease. In women over 40 with much disability and extensive lesions, extirpation of the ovaries, preferably by surgery, or by irradiation, is the treatment of choice. In young women, however, surgical treatment should be very conservative. Such conservative surgery is rewarded by pregnancy in about 10 per cent of the cases. Hysterectomy is an effective middle ground procedure. Many patients require little treatment and tolerate the disease very well.

Efforts should be directed not so much toward restoration to normal as toward making the course of endometriosis tolerable until the menopause snuffs it out entirely.

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PEPTIC ULCER FACTS

Dr. Andrew C. Ivy, University of Illinois physiologist, in the December 28 issue of *The Journal of the American Medical Association*, claims that from 5 to 12 per cent of the population in this country become afflicted with ulcers during a modern lifetime. The death rate per 100,000 in the United States from peptic ulcer has increased from 2.7 in 1900 to 6.8 in 1943. The death rate in men for both gastric and duodenal ulcer has increased since 1920, whereas that for women has decreased. Ninety per cent of the cases of peptic ulcer are first diagnosed after the age of 20. Physical and mental rest is an important favorable condition for healing of the chronic peptic ulcer. Dr. Ivy has announced the development of a new hormone, enterogastrone, which it is hoped will heal ulcers and prevent their recurrence. The results thus far of treating scores of patients with the hormone have been encouraging.

THE POTENTIAL PATHOLOGIC SIGNIFICANCE OF DUSTS FOUND IN TEXAS INDUSTRY

CARL U. DERNEHL, M. D.
GALVESTON, TEXAS

Texas is entering upon an era of great industrial expansion. With the blessings that such an expansion can bring there are always the manifold threats of new industrial health hazards as well as the unrecognized and often disregarded hazards that have existed for many years. With the laboring man's increasing awareness of industrial hazards, it becomes necessary for the physician to be alert to the various diseases which may be present in workers in Texas industries. Not least among industrial hazards are the various diseases ascribed to the inhalation of toxic dusts, and it is some of these dangers that will be discussed in this paper.

Dust control measures have been eminently successful in decreasing dust hazards, but all too often, because of inefficiency or neglect, the procedures break down and serious exposures occur. In addition, many industries find it exceedingly difficult to control dust in all phases of their manufacturing processes. The stone cutting and allied trades belong in such a group, and while the incidence of silicosis has been markedly reduced in this industry, it all too frequently appears among those who have been employed in the trade for many years. When cases appear in younger workers, they are usually the result of lack of application of known safety factors or an abnormal susceptibility based upon some imperfection in the nasal filtering mechanism.

SILICA

The diagnosis of silicosis from clinical and roentgenographic aspects has been well established; the pathologist can describe in detail the microscopic changes induced by silica dust; but the toxicologist has yet to explain the mechanism by which silica exerts its toxic action. For many years silica was believed to be totally insoluble and it was considered that any pathologic condition produced by the dust was caused by the irritating action of the sharp edges of the particles. In 1924, Gye and Purdy suggested that the toxicity of silica was due to its solubility. Many subsequent writings have extended knowledge of the solubility of silica under various conditions, and particularly in regard to its solubility in body fluids and water. As a result of these findings present opinion is favoring the solu-

From the Department of Preventive Medicine and Public Health, University of Texas Medical Branch.
Read before the Texas Chapter, American College of Chest Physicians, Galveston, May 6, 1946.

bility theory of the orgin of silicosis. Gardner[11] took exception to this opinion and presented evidence to support his suggestion that certain obscure physicochemical surface phenomena may be responsible for the toxicity of silica. As an example: Intravenous injection of a fresh suspension of 1:3 micron silica particles produces immediate shock in animals. The fact that silica must remain in contact with water or body fluids for twelve to twenty-four hours before any solubility can be demonstrated minimizes the chance of the reaction being due to dissolved silica. Likewise, the fact that other inert particulate material of similar size produced no shock ruled out the possibility of the shock being embolic in origin.

The physiologic alterations leading to dyspnea in those suffering from silicosis have been the object of much investigation. Until the past few years the accepted explanation was that the pulmonary fibrosis and silicotic nodules encroached upon air-bearing lung, thus markedly decreasing the surface area available for gaseous exchange. The dyspnea was then stated to be a reaction to compensate for the decrease in pulmonary efficiency. Many students of silicosis opposed this theory and pointed out that often the dyspnea was far out of proportion to the area of lung involved in the silicotic process. A possible explanation of this discrepancy may be in the presence of a bronchospasm, first suspected in anesthetized guinea pigs following intratracheal instillation of colloidal silica. Filley and his coworkers[10] presented evidence which confirms the presence of bronchospasm and tends also to refute the theory of the toxicity of dissolved silica. By perfusion of the intact bronchial tree, they were able to demonstrate that colloidal silica had a pronounced bronchoconstrictor effect which could be relieved by adrenalin. The fact that colloidal gold produced no such effect ruled out the possibility of the reaction being due to particulate blocking of the preparation. Silica in solution produced no reaction whatsoever, even in amounts ten times that used for the colloidal material, thus raising a question as to the toxicity of dissolved silica.

Cole and Cole[3] believe that the dyspnea is caused by a multiplicity of factors, among them being nodulation and interstitial fibrosis, alveolar consolidation, capillary obstruction and a resultant compensatory capillary dilatation. It is their opinion that much of the dyspnea may be explained by faulty aeration caused by these changes. It is probable that all of the above mentioned factors enter into this highly complicated picture.

Since control measures have failed to completely eradicate silicosis in persons exposed to silica dust, the search for further means of control has been extended into new fields. Recent work gives much promise of a satisfactory solution of the problem. Hefferman suggested that the toxicity of freshly fractured silica was due to the presence of many unsatisfied oxygen molecules free to react with body tissues and fluids. With this theory as a base, a group of Canadians, Denny, Robson and Irwin,[6] reasoned that the toxicity of silica could be destroyed by supplying nascent hydrogen to satisfy the demand of the oxygen in the silica.

To test this idea, Denny and his coworkers added small quantities of freshly pulverized aluminum to water suspensions of quartz dust and found that solution of the silica was almost completely prevented. If the previously mentioned findings of Gye and Purdy that the toxicity of silica lay in its solubility were correct, the possibility presented itself that silica could be detoxified within the body by the action of aluminum dust. As a test of this hypothesis Denny and his group exposed 7 rabbits to mixtures of quartz and aluminum dusts and 6 rabbits to quartz dust alone. At autopsy the 6 controls presented well developed fibrosis, whereas the animals treated with aluminum dust showed practically none. These favorable results in a small number of animals led to further studies[7] to determine the most effective concentrations of aluminum dust, and also to determine the effect upon the lung of aluminum alone. Heavy exposure to aluminum dust for a period of fourteen weeks produced no lung changes, so the dust could be classed as nontoxic. The addition of 1.0 to 1.5 per cent aluminum dust to quartz resulted in the protection of 7 out of 10 animals. When the concentration of aluminum was increased to 2.0 per cent, there was complete protection of all animals. It was also demonstrated that animals could be exposed to quartz dust twelve hours a day and receive forty minutes of exposure to aluminum dust with complete protection, provided that the aluminum concentration in the lung was 0.5 per cent or greater, as compared with the amount of silica present. The greater efficiency of aluminum in the latter series was believed to result from the smaller particulate size of the dust, most particles being 3 microns or less in size.

Detailed chemical studies showed that the protective action of aluminum was effected by coating all particles of silica by an almost totally insoluble aluminum hydroxide. Later studies by Germer and Storks have tentatively identified this material as a gelatinous hydrated oxide of aluminum.

Working independently and with a different approach, Gardner, Dworski. and Dela-

hant[13] reached similar basic conclusions. Their initial efforts were directed toward reducing the solubility of silica by the use of iron hydroxide to prevent toxicity. When iron hydroxide proved only partially effective, aluminum hydroxide was chosen as a more insoluble coating for silica particles. Using their own preparation of aluminum hydroxide they were able to demonstrate a complete protection when silica was injected intravenously into one ear of a rabbit and aluminum hydroxide was simultaneously injected into the other ear. When it was found that the preparation of aluminum hydroxide was active only in the fresh state and could not be dried, a search was begun for some powdered form of a hydrated aluminum oxide which could be administered by inhalation. Such a material was developed by The Aluminum Company of America and proved to be as active as the fresh hydroxide for intravenous injection.

Gardner's work is not yet complete, but he reports the following trends: Hydrated aluminum in very heavy doses may produce transient reactivation of tuberculous lesions in guinea pigs. Silicosis can be completely prevented, provided the silica and the aluminum gel can be brought together in the same phagocytic cell. Immature silicotic lesions can be caused to regress, but established fibrotic lesions can only be rendered quiescent, while the silicotic reaction of regional lymph nodes is not affected. The use of hydrated alumina seems to possess several advantages over aluminum metal. It does not floculate on contact with body fluids, it is stable and need not be freshly prepared, and its white color is less objectionable than the black color of finely divided aluminum.

The use of aluminum therapy for silicosis is now being given extensive trial, but to date only scattered reports of its effectiveness are available. Gardner reported its use in several cases with rather disappointing results. Crombie, Blaisdell, and MacPherson[4] reported the results of treatment of 34 active miners with uncomplicated silicosis, who received a total of from 200 to 300 daily treatments of thirty minutes each. Nineteen, or 55 per cent, of those so treated showed subjective improvement. Fifteen, or 45 per cent, demonstrated no improvement, but neither was there any progression of the disease in spite of continued exposure to silica. A group of 9 control miners under observation for the same length of time showed progression of the disease in 66 per cent of the cases. Bamberger[1] reported on 49 miners who received a total of 30 daily treatments, starting with five minutes and increasing the time of treatment by five minute increments until a maximum of thirty minutes daily was reached. Twenty-five patients received aluminum powder and 24 received the hydrated oxide, XH-1010, used by Gardner in his work. Twenty-four reported some improvement, 20 reported no change, and 5 reported they felt worse. All improvement was subjective, and in no instance could objective improvements be demonstrated. Hydrated alumina appeared to be slightly more active than metallic aluminum in causing regression of symptoms. Table 1 summarizes some reports already in the literature on the effectiveness of aluminum therapy in silicosis.

TABLE 1.—*Effectiveness of Aluminum Therapy in Silicosis.*

Author	No. Cases		% Reporting Improvement
Hannon	33		100
Hannon[14]	247		
	143	with disability	94
	104	without disability	90
Crombie et al[4]	34		55
Bamberger[1]	49		49
MacGregor[16]	143		94
	104		89

The extent to which aluminum therapy is being given a trial is indicated by the statement of MacGregor[16] that there are now 102 treatment units operating in the United States, and the report of Irwin that in Canada there are some 18,700 miners under treatment by various investigators. Thus it would seem that aluminum therapy is being given an extensive trial. Evidence to date suggests that the greatest benefits of the treatment will lie in stopping the progress of established silicosis, and in preventing its occurrence among those not yet afflicted.

COTTON

The cotton industry of the south and the textile manufacturing centers employ many thousands of people. At present the subject of pulmonary changes caused by cotton dusts is a matter of considerable controversy. Most investigators of the subject readily admit that repeated and prolonged exposure may result in signs and symptoms of chronic respiratory tract irritation, but hesitate to confirm or deny the presence of permanent damage. The number of persons involved demands that investigative studies be made in the near future to establish definitely the presence or absence of permanent lung damage.

Feil[8] classes cotton dust as an organic dust irritant which produces bronchial irritation but no sclerosing pulmonary lesion. Feil also believes that the dust never reaches the alveolus proper. Maitland[17] and his group oppose this belief and state that cotton dust does reach the alveolus and produces an inflammatory reaction at the site of its lodge-

ment. Prausnitz[19] confirmed the presence of cotton dust in the alveoli of experimental animals, and also demonstrated a marked inflammatory thickening of the alveolar wall. Such a finding is common in an interstitial pneumonitis, and if long continued might well result in varying degrees of diffuse pulmonary fibrosis. A diffuse fibrosis of this type might account for dyspnea and impaired function in the presence of a normal chest roentgenogram. Fletcher reviewed the roentgen and clinical symptoms of 100 patients and reported only emphysema and an exaggeration of hilar and bronchial shadows. Dyspnea, when present, was due to emphysema rather than asthma. Bolen[2] reported 2 cases of lung changes in cotton workers who had been exposed to the dust in card rooms for more than twenty years. One case presented bronchiectasis with severe pulmonary fibrosis and the other a marked fibrosis alone. A survey of cotton workers in Mississippi by Ritter and Nussbaum[20] brought to light only several cases of asthma and no characteristic changes in the lung fields. While many English investigators believe that asthma plays no part in the dyspnea of cotton workers, there is abundant evidence at hand to show that an allergy to cotton protein may be present. Prausnitz was able to demonstrate a sensitivity to cotton in all workers having respiratory complaints, and only rarely was an allergy present in those having no complaints. Hayworth and Macdonald[15] demonstrated an increase in the amount of histamine in the circulating blood of cotton workers, and further showed that this increase was greatest on Monday mornings, at which time cotton workers complain most commonly of respiratory distress.

In view of the controversial evidence presented, the possibility of cotton dust producing permanent lung damage cannot be disregarded. The English have recognized this fact by the passage of a law providing compensation payment for employees who become completely disabled after twenty or more years employment. It would seem that the basic pathologic lesion is an inflammatory thickening of the alveolar wall, which, it is suggested, may after long exposure progress to a diffuse pulmonary fibrosis. The presence of such lesions in certain employees suggests that a sensitivity to cotton dust is a predisposing factor to the production of the inflammatory changes. In addition, the mere presence of the dust as a bronchial irritant may, over a span of years, produce emphysema and bronchial dilation as a result of repeated coughing efforts. Finally, frank asthma may be present in certain persons.

SULFUR

Within the past few years Texas has assumed an important role as a producer of the world's supply of sulfur. The industry now employs so many workmen that potential lung disease due to sulfur dust must be carefully evaluated. In this country the mining procedures are so conducted that there is little chance for inhalation of sulfur. It is in the processes of loading sulfur for transport and in its manifold industrial uses that the exposure to sulfur dust is most intense. In practically all industrial uses, such as vulcanizing rubber, manufacturing dusting powders, and the production of sulfuric acid, the sulfur is finely ground and produces large quantities of dust. Most of our knowledge regarding sulfur toxicity comes from Italian literature. In Italy the great exposure comes in the hand mining processes, and so is not comparable to the situation occurring in this country. Ferrannini[9] reported that inhalation of the dust produces a nodular and diffuse pulmonary infiltration which, on roentgen examination, closely resembles silicosis. Dusting by intratracheal insufflation into experimental animals has produced similar nodular changes demonstrable on postmortem examination. Ferrannini also described changes such as emphysema, chronic cough, weight loss, chest pain, and severe dyspnea, leading to total disability in miners exposed over a long period.

A critical examination of the literature by Schiavina[21] tended to discount many of the conclusions of Ferrannini, and pointed out that several factors have been regarded too lightly. There are, for instance, high concentrations of sulfur dioxide and hydrogen sulfide in Italian sulfur mines. Also, silica may be present in concentrations as high as 40 per cent. Schiavina doubted seriously if sulfur ever remains so finely divided that it can reach the alveoli. He also questioned the validity of the experimental conclusions reached by Ferrannini because of the highly unnatural means used to produce the lung lesions.

Pinto, Brown, and Carlton[18] studied employees of the sulfur industry in Louisiana and could find no evidence either clinical or roentgenographic to show any harmful action, in spite of high concentrations of sulfur dust. In concurrence with these findings I doubt seriously if there is any valid reason for suspecting sulfur dust as a source of industrial illness in the United States. Dust studies conducted about a year ago convinced me that ground sulfur retains its finely divided state for a few minutes only. One to 3 micron powdered sulfur particles invariably agglomerate into 10 to 20 micron

particles by the time they can be collected, and these particles are too large to penetrate deeply into the lung. If a means can be found to keep the sulfur divided, I plan to make detailed studies of its possible toxicity when inhaled.

CEMENT

Much interest has been expressed from time to time in regard to the toxic properties of cement dust. The large number of cement plants in Texas and the presence of free silica in some phases of manufacture recommend it for consideration.

Many studies were made early in the twentieth century. The most recent and probably most complete is that of Gardner, Durkan, Brumfiel, and Sampson, in 1939.[12] These workers surveyed seventeen cement plants employing 2,278 persons, of whom 1,979 were exposed to more or less dust. The study included careful determinations of silica content of dusts, dust concentrations, physical examination of employees, and chest roentgenograms. From this study it can be concluded that the cement industry offers relatively little chance for the development of disabling lung disease. In general, the health of the employees was as good, or better than that of any other employed group. In addition, there was a significantly low incidence of tuberculosis (0.18 per cent as compared to usual estimates of 1 to 1.5 per cent for the population as a whole). Roentgenographic examinations showed evidence of silicotic nodulation in 8 persons; of these 6 had a history of previous employment as hard rock miners, and 2 probably acquired this disease in the cement industry. One was employed as a driller in a sandstone quarry for a special process cement and the other was employed in the raw material crusher, where free silica concentrations were quite high. The latter person, however, had a grossly deformed nose which probably accounted for the presence of his disease, while 6 others employed at the same location for similar lengths of time showed no gross changes. Evidence of increase in linear markings of the lung appeared in 347 employes, but in only 2 of these did the markings assume pathologic significance. Both of these persons were exposed to dust with a low silica content, and dust counts never were very high. Both had a history of pneumonia and the possibility of infection could not be excluded. Curtis[5] reached similar conclusions as to the harmlessness of cement dust, and stated that the health of cement workers is on a par with that of the population in general. All of these conclusions are based upon surveys of the industry and are probably valid, but it would seem that further study is needed to account for the varying degrees of increase in linear lung markings in 17.5 per cent of the employees.

The material presented here represents only a small part of the potential dust hazards that may exist in Texas industry. Little or nothing is known of the action of magnesium dust, carbon black, and many others too numerous to mention. Several years ago Dr. Carl A. Nau and I laid plans for extensive studies of the toxic properties of dusts found in Texas industry. A method for the generation of controllable dusty atmospheres has been developed and is to be enlarged upon to allow for exposure of large numbers of animals in such a manner as might occur in an industrial plant. We hope to report the results of these studies in the future.

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ABSTRACT OF DISCUSSION

Dr. R. G. McCorkle, San Antonio: From the paper, the treatment of pathologic lesions in the lungs produced by dusts found in Texas industry is, first, preventive, by use of devices which keep the dust out of the respiratory tract and removal of dust in the air by mechanical devices, and then treatment after the disease has been established.

Physicians who practice clinical medicine are particularly interested in what to do for a person who

has a disability of the lungs resulting from inhalation of the different dusts, and treatment seems to be centered on silicosis. There are different stages of silicosis as there are of tuberculosis, and symptoms exhibited by the patient are in direct proportion to the amount of lung pathology. The essayist spoke of the toxicity of silica dust, its solubility, and the manner in which the dust causes the changes found in the lungs. He also quoted different authors who seem to disagree as to the manner in which the silica acts to produce fibrosis and nodulation and as to whether silica is soluble.

As to toxicity, and I would judge that by elevation of temperature, pulse rate, malaise, and so forth, it has been my observation that the temperature is either normal or subnormal, and the pulse rate is not elevated to any extent. Clinically, cough and dyspnea are the chief symptoms found and these only in advanced cases. The picture is different if complicated by pulmonary tuberculosis. From the paper of Dr. Dernehl it seems that aluminum therapy has some value in the prevention of silicosis and also definite value after the disease has been established.

I am glad to know that cement and sulfur are practically harmless in producing disability, but the laity believes that any dust which if inhaled causes a cough or a general run down feeling can cause pulmonary damage. I think it should be considered that any dust inhaled over a period of time is potentially dangerous even if the disability is only temporary. The author is to be congratulated for the excellent presentation of this subject, which called for many months of laboratory investigation and reviewing of the literature.

MEDICAL MANAGEMENT OF ESOPHAGEAL DISORDERS

A FURTHER REPORT

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Two years ago before this section, collaborating with Dr. Milford O. Rouse and Dr. John S. Bagwell, both of Dallas, I presented a paper entitled "The Medical Management of Common Esophageal Disorders."[5] Therein was emphasized the value of placing a radium capsule in malignant esophageal stricture. The gastroenterologist and radiologist cooperate so that radiotherapy plus adequate dilatations to afford swallowing comfort combine to prolong the patient's life and usefulness. We now have 2 such patients who have survived five years, and others in such good state of nutrition that we are still impressed by the value of this procedure, especially in lesions not amenable to surgical resection.

In other presentations on esophageal disorders,[3, 4] attention was directed to the treatment of acute esophagitis, peptic ulcer of the esophagus, diverticula, nervous dysphagia, foreign bodies, and hemorrhaging esophageal varices.

The shortage of hospital beds led to the discovery that such patients are much happier to have minimum confinement.[4] One patient (G. L.) who had esophageal carcinoma, and who weighed 72 pounds, maintained 108 pounds and survived three years and three months after onset of the obstruction to swallowing, with only fourteen days' hospitalization. She continued ambulatory about her farm until the day before sudden death two years and one month after the diagnosis.

There is now a much more satisfactory outlook for the patient who has hemorrhage from esophageal varices. For example, such a patient who had survived ten years and thirty hospitalizations for massive hematemesis has experienced only one hemorrhage in three years since the beginning of sclerosing therapy for esophageal varices. Sufficient numbers of these patients have been injected to provide experience and suggest precautions for further protection of the patient, who otherwise has the constant hazard of fatal hematemesis.[1, 2, 3]

ESOPHAGEAL OBSTRUCTION IN SKIN DISEASES

The esophageal mucous membrane, having stratified squamous epithelium, often resembles skin in its reaction to infections, chronic changes such as leukoplakia and neoplasia, and congenital variations of structure. In the treatment of such conditions, utmost gentleness is vital. For example, trauma in pemphigus may be followed by a vaccine type of reaction, and a much larger lesion may develop. In scleroderma, trauma may be associated with increased fibrosis. In epidermolysis bullosa, the slightest trauma is followed by large bullae which may break down and ulcerate in the esophagus. Nevertheless, if an obstruction is present from one of these processes, it can be relieved by gentle mechanical dilatation as reported in the following 3 cases.

CASE REPORTS

CASE 1.—*Pemphigus.* Mrs. C. B. L., a white woman, aged 65, came to Baylor University Hospital Out-Patient Department, March 28, 1933, complaining of loss of vision in the right eye, which had become progressively worse since a slight scratch to the eye with an ice pick in 1926. There was sore throat recurring for seven years and difficulty in swallowing for two years. Physical examination showed bilateral symblepharon and a chronic ulceration and fibrosis with partial destruction of the soft palate. The esophagus was reported normal to roentgen-ray study but one of the staff doctors found there was resistance to passage of a soft bougie, suggesting some esophageal stenosis. Twelve years later, October 29, 1945, the patient returned to Baylor Hospital under the care of Dr. Frank Selecman. A nodule, which had been noticed during the previous year by the patient and was increasing in size, was removed from the left breast. Sections showed "a nodule of adenosis in breast." Recovery was uneventful. During this hospitalization the patient failed to mention any difficulty in swallowing. She was well nourished.

The patient was again admitted to the same

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hospital December 17, 1945, complaining of inability to swallow even liquids for five days. Questioning revealed that there had been "symptoms of intermittent upper esophageal obstruction for twenty years although it had been mild and had never interfered with nutrition until six days before." Roentgen study revealed "complete obstruction of the esophagus at the level of the third thoracic vertebra, probably the result of a stricture rather than neoplasm." To esophagoscopy, December 21, 1945, "a smooth, firm stricture closing the esophagus was encountered at the level of the suprasternal notch. There was no ulceration, no displacement of the esophagus as from outside pressure. There was no evidence of neoplasm. A soft 8 F lumen finder was passed through a tiny pinpoint lumen of the stricture which was then dilated to 32 French." Two days later the patient was swallowing soft food and her discharge was written. She soon had a chill, said she had a nose cold, and the temperature rose to 103 F. Her discharge was delayed until January 4, 1946. There had been no fever the last five days. The patient has reported regularly to the Out-Patient Department and is having only mild swallowing distress. Dr. Everett C. Fox, Dallas, had made the original diagnosis of pemphigus. The lesion in the esophagus was of the same gross appearance as that which through the years had destroyed the normal landmarks about the eyes and of the palate and hypopharynx.

CASE 2.—*Scleroderma.* Mrs. J. C., a white woman, aged 34, came to my office January 15, 1945, complaining of "indigestion and heartburn since 1938, difficulty in swallowing, food seeming to 'stick' during the past year—often spitting back to relieve pain in the chest." She had had an appendectomy in 1932, a renal calculus in 1939, typhoid at the age of 9 years, and the tonsils and adenoids had been removed. Her weight was 108 pounds. She was the mother of one child, aged 2. Physical examination was not remarkable except there was an infection of the left index and middle fingers, and the fingertips and the toes were purplish and cold. On questioning, the patient said her legs were especially cold and purple in cold weather. There was an epiphora of the right eye, reportedly due to stenosis of the lacrymal duct. Roentgen study disclosed obstruction of the esophagus at the cardia, with fusiform dilatation of the esophagus, typical of cardiospasm. There had been 18 pounds of weight loss during recent months and increasing distress related to swallowing. The cardia was dilated on January 26, 1945. Differing from the usual cardiospasm, there was a firmness in the stenosed cardia; there was no evidence of ulceration or malignancy. This was noted again on repeating the treatment March 10, September 8, and December 8, 1945. During this time there was a weight gain of 4 pounds. The patient had sclerodactylia (changes in the fingers and toes), and obstruction of the lacrymal duct and of the esophagus. It was therefore the opinion of all consultants that the clinical picture was that of scleroderma.

CASE 3.—*Epidermolysis Bullosa.* Mrs. W. E., a white woman, aged 28, came to our office in March, 1943, complaining that three days before she "was unable to swallow an aspirin, strangled, and had continued pain in the throat." She had called her physician, who gave an injection without relief. She had been unable to swallow even liquids for twenty-four hours. At the time of her arrival in the office, little sips of water could be swallowed with difficulty. She had choked on soft cereal at breakfast. There had been a similar episode four years before, at which time esophagoscopy done elsewhere revealed that the esophagus "appeared like a lye burn." We checked with barium swallow and found an obstructing lesion in the upper third of the esophagus. Esophagoscopy revealed an acutely inflamed, bullous obstructing lesion. Gentle dilatation with graduated beads afforded swallowing comfort, and only slight dysphagia to solids is noticed now, many months later. No biopsy was taken because utmost gentleness is vital in relieving the dysphagia produced by such a lesion. There were continuously numerous bullae of the skin in various stages of production and healing about the prominences of the elbows and knees. The patient was semi-invalid because of the continuous harassment of these skin lesions, recognized by a qualified dermatologist[6] as "epidermolysis bullosa." This is a disorder primarily of the skin, the result of congenital absence of supporting fibrils between the epithelium and deeper layers of skin. Continuous recurrence of large bullae result from the slightest trauma, even as from the weight of the patient's clothing stroking the skin. The same congenital anomaly of epithelial structure exists in the esophagus.

COMPLICATIONS ENCOUNTERED

For more complete orientation regarding the care of patients having serious esophageal diseases, the brief reports of some complications occurring since 1933 seem quite important.

CASE 4.—A fistula between the esophagus and right bronchus in a white boy (A. R.) aged 9 years had developed during his third year following lye burns. After consideration, surgical correction was deferred. Now thirteen years later, he has grown to normal adult stature, 5 feet 10 inches, weight 138 pounds, and has succeeded in supporting his wife and two children. After an absence of ten years without treatment, he now has extensive pulmonary changes and total closure of his esophagus. Not even saliva can be swallowed, and he takes all nourishment by gastrostomy tube. He coughs up large quantities of thick, mucopurulent secretion each morning. His entire right lung field is dark to roentgen ray. The constant drainage of saliva into the right lung thus has resulted in extensive changes in the lung and his daily coughing distress is such that pneumonectomy is now being considered. Such an esophago-bronchial fistula could be corrected early and the patient have a much better outlook with present advances in thoracic surgery.

CASE 5.—C. W. B., a Negro boy, aged 1 year, was admitted to Baylor University Hospital Out-Patient Department, May 19, 1943, markedly dehydrated and emaciated because of inability to swallow—the result of lye burns sustained six weeks before. During the following two years there were fourteen admissions for dilatation of his esophageal stricture and at the end of that time he had developed average weight and height for his age. At 8 a. m. on June 13, 1944, his esophageal stricture was again dilated, with ortal sodium per rectum as part of the preparation. He was returned to his hospital bed where nine hours later he was reported to be in a critical condition with temperature of 105 F. He died one hour later, at the age of 2 years 11 months. At autopsy, on opening the thorax, both lungs were found to be contracted to a very small size, less than the patient's closed fist. A firm curd of milk, tightly occluding each main bronchus, had produced asphyxia. How he got the milk, which after partial digestion was vomited and aspirated, is unknown except that during his stay of many months in a large ward he had become quite a favorite among other patients. The effect of his drug had probably inhibited his cough reflex. There was a dense fibrous constriction in his lower esophagus. There was no evidence, however, of trauma from his dilatation or infection of the esophagus or related structures in the chest.

CASE 6.—Mrs. A. W., a white woman, aged 41, came for treatment of cardiospasm October 15, 1944. There had been progressively more difficulty in swallowing the previous nine years until she could swallow only sips of liquids. Within three hours after her treatment, pain accentuated by breathing required a hypodermic injection. There were increasing signs of pleural reaction at the right base, evaluated during the day by Dr. George Jones, internist, and Dr. Walton Cochran, considering thoracic surgery. Parenteral sulfadiazine and penicillin were begun. Only clear liquids were permitted by mouth. Pink, clear fluid was obtained on chest aspiration by Dr. Jones on October 20 and again on October 24. Microscopic examination of thoracentesis fluid revealed 11,485 white blood cells, 86 polymorphonuclear leukocytes, 14 lymphocytes, 10,850 red cells. No organisms were found by gram stain, culture, and guinea pig inoculation. The temperature slowly increased to 101 F. the third day and to 103 F. the following five days, returning to normal twelve days after onset of pleural pain. The respiration was 28 at the highest and the first ten days were truly anxious days because of chest pain and respiratory distress. Soft diet was permitted the eleventh day after admission, and the patient was discharged on the sixteenth day. Now, one and one-half years later, the patient has continued well and is consistently grateful for swallowing comfort.

CASE 7.—Mrs. M. B., a white woman, aged 36, was admitted by ambulance to the emergency medical service of Parkland Hospital March 30, 1946, in a critical state of circulatory embarrassment. Life-saving emergency measures were effected by members of the intern and resident staff on the medical service of Dr. Tinsley Harrison. The woman's serious emergency was considered to be that of cardiac tamponade caused most probably by hemopericardium. Her dyspnea had developed soon after violent physical effort by the patient while separating a rooster and a dog fighting in her back yard. Thirty-two days before this emergency the patient had had her fourth injection treatment within sixteen months for esophageal varices. She had her spleen (weight 1,305 Gm.) removed in November, 1944, by Dr. Sam Weaver. Prior to splenectomy there had been nine episodes of massive hematemesis in five years from ruptured esophageal varices. At surgery, section of the liver was found to show Laennec's cirrhosis. There had been no recurrence of massive blood loss after injection treatment of esophageal varices and splenectomy. After bouts of violent retching, which seemed difficult for the patient to control at times, small amounts of blood had been raised. Ten days after this admission to the hospital, the patient was discharged to her home, with recommended rest but up to meals and bathroom. On admission there had been marked enlargement of the heart shadow, interpreted clinically and radiologically as that of pericardial fluid. Hemopericardium from rupture of pericardial veins seemed probable in that the patient's superficial abdominal and visible thoracic veins have been observed for several years to be often quite distended. It was thought probably mediastinal and pericardial veins might likewise be distended and thus more susceptible to rupture with violent physical effort.

In treating esophageal disorders, the physician is ever mindful of critical states reported following minimal trauma to the myocardium, aorta, pericardium, or pleura, and of the relationships of the esophagus and its very close proximity to these vital structures in the chest. The usual incidence of complications has been reported less than 1 per cent and this has been true in our experience.[7]

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ABSTRACT OF DISCUSSION

Dr. Paul J. Thomas, Dallas: Dr. Patterson is to be congratulated on an excellent paper. It is only regarding the patients with esophageal varices that I wish to comment. Those of us fortunate enough to have witnessed the dramatic cessation of an exsanguinating hemorrhage following the injection of sclerosing agents realize the importance of the pioneer work Dr. Patterson is doing in this field.

The development of this procedure makes it all the more important to investigate the cause of upper intestinal bleeding. The presence of esophageal varices may be diagnosed by esophagoscopy or radiographic techniques. Once their presence is established, it then becomes important to find the underlying cause. Esophageal varices are associated with several types of congestive splenomegaly, the most common of which is portal cirrhosis. Yet other causes occur sufficiently frequently to justify exhaustive efforts to determine liver function. In those syndromes where the liver is normal, as for example splenic venous obstruction from extrinsic pressure, stricture, or thrombosis, splenectomy, or other by-passing venous surgery may be curative or beneficial. Nor is the finding of abnormal liver function so ominous as formerly, because of the development of modern therapy for hepatic cirrhosis. In addition to such methods as Dr. Patterson's injection of varicosities and certain surgical procedures yet too recent for final appraisal, medical therapy has improved remarkably. Diets high in proteins, carbohydrates, and vitamins, particularly the B complex, and low in fat are desirable. Lipotropic agents such as methionine and choline are recent therapeutic additions of utmost importance, and folic acid has promise in an associated macrocytic anemia. Finally, concentrated proteins orally or parenterally are relatively new agents to be added to such older measures as abdominal paracentesis, diuretics, and sodium chloride restriction.

MENTAL HEALTH EDUCATION

The National Mental Health Foundation has announced an expanded program of public education on the problems and needs of mental patients, made possible by grants of $25,000 each from Carnegie Corporation of New York and the Rockefeller Foundation. Similar grants in 1948 have been promised if the Mental Health Foundation can raise $122,000 through popular subscription. The foundation was organized in 1944 to inform the public of the need for more progressive and humane treatment of mental patients; to secure adequate mental health facilities in every state; and to encourage better training for attendants in mental hospitals.

SURGERY OF THE PANCREAS

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The pancreas is an organ which has multiple important physiologic functions. Anatomically and functionally it is intimately associated with other organs and systems. Because of these facts, it has been one of the last organs in the body to be treated surgically. It has required much more than surgical technique and skill to overcome the dangers and difficulties of operation on the pancreas. In my opinion, research in physiology and chemistry of the pancreas has contributed more than surgery has to the successful solution of the problems associated with surgical treatment of lesions in this organ. Many things are still unknown about the pancreas and its functions under varying circumstances; however, enough progress has been made to permit consideration of surgical treatment for a number of diseases of the pancreas, and operations in this field are no longer rare. It is important, therefore, to consider at this time the present status of surgery of the pancreas. I shall limit my discussion to those lesions of the pancreas for which pancreatic resection of various extent and type may be indicated.

CARCINOMA OF THE PANCREAS

I shall not attempt to go into the details of symptoms and diagnosis of carcinoma of the pancreas. However, a few points regarding the disease should be emphasized. The description of the disease in most textbooks is that of the late stages of the condition, but physicians must be alert for the early manifestations of the disease in order that operation may be performed at a favorable time and curative results obtained. Carcinoma may involve any part of the pancreas, but about three-fourths of all carcinomas of the pancreas occur in the head of the pancreas. Because the biliary ducts pass through the head of the pancreas, obstructive jaundice is recognized as a frequent symptom of carcinoma in this region. It should be pointed out, however, that jaundice is not necessarily the initial or chief complaint in many cases of carcinoma of the pancreas.

In our experience at the Mayo Clinic, pain has been the chief complaint in about half of the cases of carcinoma of the pancreas and it has been the important symptom in about three-fourths of the cases. The pain may be severe; however, it is usually not colicky in type, as it is in biliary lithiasis. It is usually aching in character, extends into the back, and is often worse when the patient is in a reclining position and is relieved when he sits or stands.

Enlargement of the liver and gallbladder frequently is cited as of important diagnostic significance. The enlargement of these organs depends on the degree and duration of obstruction to the common bile duct. Actually, the gallbladder is palpable in only about half of all cases. Loss of weight occurs in more than 80 per cent of the cases. The secretin test and quantitative tests for serum amylase and serum lipase are not of great diagnostic significance. Roentgenologic studies may reveal some deformity of the duodenum by an extrinsic mass, but this deformity is not diagnostic. A real need exists for development of more accurate tests of pancreatic function which might aid in the early diagnosis of pancreatic lesions.

Carcinoma of the ampulla of Vater and the lower end of the common bile duct is usually of a low grade of malignancy. Because of their location, extremely small tumors can produce symptoms, particularly obstructive jaundice, which call attention to their presence at an early time. For this reason, these lesions are particularly favorable for surgical resection. They should be considered with carcinoma of the head of the pancreas because it is often impossible to differentiate between the two clinically. These lesions usually are not accompanied by the degree of pain and loss of weight that is characteristic of carcinoma of the pancreas. Obstructive jaundice may develop more rapidly and the gallbladder may be palpable more frequently when these lesions are present that when carcinoma of the pancreas is present. The presence of blood in the stools or in the duodenal contents indicates that an ulcerating lesion of the ampulla has developed, and occasionally a tumor of the ampulla can be seen on roentgenographic examination.

The treatment of these three types of lesions is almost identical from a surgical standpoint. Resection for carcinoma of the head of the pancreas may need to be more extensive and is more difficult technically than is resection for other types of lesions. I will consider the surgical technique for treatment of these lesions subsequently.

CHRONIC PANCREATITIS AND PANCREATIC LITHIASIS

Recently resection of the pancreas has been indicated in carefully selected cases of chronic pancreatitis, particularly if pancreatic lithiasis is associated. Chronic pancreatitis is not as uncommon as it was once believed to be. It is a serious, usually pro-

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gressive and incapacitating disease. Its cause is not completely clear; however, often a prolonged history of disease of the biliary system is elicited. One or more episodes of rather acute pancreatitis may have preceded the chronic condition. Chronic pancreatitis is characterized by recurring bouts of rather severe epigastric pain which extends to the back. At first rather long remissions may occur between attacks, but as the condition progresses attacks become more frequent and often morphine is required for relief. Steatorrhea frequently develops and progressive loss of weight results from the inability of the patient to digest and to absorb food. The patient often becomes completely incapacitated both because of pain and malnutrition. Diabetes may develop in some cases as destruction of the pancreas by the chronic inflammatory process progresses. The condition probably can be described best by the presentation of a typical case in which resection was performed.

CASE REPORT

CASE 1.—A woman, 37 years of age, registered at the Mayo Clinic on July 17, 1944. In 1937 she had had acute pancreatitis, for which emergency operation and drainage of the pancreas had been performed. She had recovered from this but after that time she had had remissions and exacerbations of pain in the upper part of the abdomen. Attacks had become more frequent and more severe until she had had to take morphine for relief. The pain had extended into the back. She had lost 20 pounds (9.1 kg.) and mild steatorrhea was present.

On physical examination at the clinic a firm, nodular mass was palpated across the entire epigastrium. Roentgenographic examination revealed extensive calcification of the pancreas.

Operation was advised and on July 27, 1944, exploratory operation of the abdomen was performed. A large, stony, hard mass involved the entire pancreas. The common bile duct was enlarged slightly; the gallbladder was normal. The common bile duct was opened for exploration and a T tube was inserted and left in place for three months.

The patient obtained no relief and continued to have intractable pain. Examinations of the stool revealed almost complete absence of digestive function of the pancreatic secretions, and the glucose tolerance curve indicated that diabetes was developing.

Therefore, total pancreatectomy was carried out on November 17, 1944. Total pancreatectomy, splenectomy, and resection of the lower end of the common bile duct, duodenum, and antrum of the stomach were performed. The stump of the duodenum was anastomosed to the gallbladder; the lower end of the common bile duct was ligated and gastrojejunostomy was performed. Microscopic examination of the specimen revealed diffuse pancreatic calcification with fibrous pancreatitis and atrophy of the islands of Langerhans. Multiple pancreatic stones were observed.

The postoperative course was satisfactory and the patient was relieved of pain. The diabetes was stable and easily controlled and the patient was dismissed from the hospital four weeks after operation. About three months after operation, the patient reported that she was gaining weight and felt that she had a new lease on life. Unfortunately, while she was at home, what was apparently hypoglycemia developed and was not recognized, and the patient died.

It may seem that resection of the pancreas for a benign condition is a radical procedure. In our experience at the clinic, however, more conservative procedures often have been unsuccessful. Personally, I am convinced that in some cases relief of pain can be accomplished only by resection. Once pain is relieved, it is remarkable how well these patients get along in spite of pancreatic insufficiency. Pancreatic supplements have been helpful in restoring digestive functions and nutrition postoperatively.

HYPOGLYCEMIA DUE TO HYPERINSULINISM

Hypoglycemia due to hyperinsulinism provides a fascinating field for various types of pancreatic operations. The syndrome of hyperinsulinism is as varied in its manifestations as is that of insulin shock, for they are the same.

The attacks vary in different patients but, as a rule, they maintain about the same general pattern in the same patient. Wilder has grouped the nervous manifestations of the attacks under three main headings: (1) those that are related to disturbances of the sympathetic nervous system, such as nausea, sweating, pallor, flushing, chilliness, syncope; (2) those that are related to the central nervous system and manifested by restlessness, tonic or clonic muscular spasms, opisthotonos, and convulsions; and (3) psychic disturbances, such as apprehension, confusion, disorientation, mania, unconsciousness, and coma.

The essential triad of findings that are considered indispensable for the diagnosis of hyperinsulinism due to islet cell tumor of the pancreas consists of (1) attacks that occur characteristically during the fasting period before breakfast or after severe physical or mental effort when sugar reserves are low, (2) levels of blood sugar below 50 mg. per 100 cc. during the attack or after fasting for twenty-four to thirty-six hours, and (3) recovery of the patient from the attack, whatever its pattern may be, after administration of sugar by mouth or vein. Patients who exhibit this triad and in whom disease of the liver, pituitary, adrenals, and thyroid gland and epilepsy have been ruled out should undergo exploratory operation for islet cell adenoma of the pancreas. Conservative treatment of hyperinsulinism due to islet cell adenoma should not be continued because (1) if continued, administration of a high carbohydrate diet necessary to control hyperinsulinism results in marked obesity and the risk and technical difficulty of operation are increased, (2) prolonged hypoglycemia may

result in mental deterioration, probably as a result of malnutrition of the cortical cells, and (3) an islet cell adenoma may be or may become malignant.

Exploratory operation in cases of hypoglycemia due to hyperinsulinism should be performed through a transverse upper abdominal incision so that the entire pancreas can be examined thoroughly. Most adenomas are found in the body or tail of the pancreas because the islands of Langerhans are more abundant in this region. However, hyperfunctioning adenomas occasionally are found in the head of the pancreas. Adenomas in the head of the pancreas are extremely hard to palpate in many instances and on 3 occasions in the experience of the Mayo Clinic it has been necessary to perform total pancreatectomy in order to find these adenomas. In 2 of these cases partial pancreatectomy had been performed elsewhere without relief. In each of these cases a typical adenoma was found in the pancreas after it was removed.

Islet cell adenomas of the pancreas usually are small, measuring from 1 to 2 cm. in diameter. However, the size of the adenoma does not determine the degree of hyperinsulinism. In 1 typical case of severe hyperinsulinism no adenoma could be found at operation. Resection of the body and tail of the pancreas was performed. After careful search, the pathologist was able to find an adenoma which measured 2 mm. in diameter. The patient was completely relieved of hyperinsulinism. These adenomas are usually firmer than the surrounding pancreatic tissue and they have a pinkish or purplish color that may be helpful in locating them. The entire pancreas should be palpated carefully since more than one adenoma may be present. The following case illustrates this point.

CASE 2.—A married woman, 34 years of age, registered at the clinic on September 3, 1943. She had had symptoms which were suggestive of hyperinsulinism and laboratory studies confirmed this diagnosis. The value for the fasting blood sugar was 9 mg. per 100 cc.

Operation was advised and on September 24, 1943, an islet cell tumor of the pancreas, 1.5 cm. in diameter, was found and removed without difficulty. No other adenomas were found at the time of operation. The patient was not relieved of hyperinsulinism, however. The level of blood sugar remained as before and she continued to have symptoms.

On March 27, 1944, the patient returned and another operation was performed on April 4, 1944. The distal third of the pancreas was found to be rather firm and nodular. This portion of the pancreas was resected. On pathologic examination this proved to be the site of 14 separate and distinct islet cell adenomas varying in size from 2 mm. to 1.5 cm. in diameter. The patient was completely relieved of hyperinsulinism by this procedure.

It should be pointed out that hypoglycemia may occur without demonstrable pancreatic lesions. However, if the triad of findings indicating hypoglycemia due to hyperinsulinism persists after partial pancreatic resection, it is almost certain that an islet cell tumor has been overlooked. It should also be mentioned that tumors having all the morphologic characteristics of hyperfunctioning islet cell adenomas can occur without any symptoms or laboratory evidence of hypoglycemia. Islet cell tumors may be definitely malignant and metastasize, or they may be localized and encapsulated but with some microscopic evidence of malignant changes. Fortunately, malignant adenomas of the pancreas are present in only about 10 per cent of cases in which hypoglycemia due to hyperinsulinism is present.

In a case of hypoglycemia due to hyperinsulinism, as indicated by fulfillment of the triad of findings mentioned previously, exploratory operation of the pancreas through a transverse incision should be performed. If a typical, well-encapsulated adenoma is found and removed and thorough examination of the pancreas reveals no other abnormality, a lasting cure of the hypoglycemic state usually can be obtained. If no adenoma is found, I believe subtotal resection of the tail and body of the pancreas is justified in the hope that an adenoma too small to be palpated will be removed. This is not a difficult or dangerous procedure under most circumstances. It may be necessary to remove the spleen with the pancreas. I do not believe that total pancreatectomy is justifiable at the first operation in most instances. If the hypoglycemic state persists after partial pancreatectomy, resection of the head of the pancreas may be considered at a later date. It must be remembered that total pancreatectomy not only is a formidable surgical procedure which carries considerable risk, but it also deprives the patient completely of both the internal and external pancreatic secretions. This deprivation causes total diabetes and interferes to some extent with nutrition. Diabetes can be controlled by the administration of insulin, and pancreatin can be used to compensate for the loss of the digestive enzymes. However, this procedure should not be employed unless extremely severe hypoglycemia persists in spite of more conservative measures.

PREOPERATIVE MANAGEMENT

Preoperative management of the patient who is to undergo as radical a procedure as resection of the pancreas is important. The blood grouping of each patient should be determined, for blood transfusions are indispensable during these operations. Often patients who have carcinoma of the pancreas and those who have chronic pancreatitis have

lost considerable weight preoperatively. Every effort must be made to get the patient in the best possible condition. When jaundice is present or the prothrombin time is increased because of malnutrition, synthetic vitamin K should be given in sufficient quantities to restore the prothrombin time to a normal level. The use of synthetic vitamin K to control the bleeding tendency of patients who have jaundice and are malnourished has been a great contribution to the success of operations in these cases and has made it possible to carry out a one-stage rather than multiple-stage operation. Some of the patients with severe pancreatic damage may have diabetes or the glucose tolerance curves may be altered. These patients must be studied very carefully both before and after operation so that diabetes may be well controlled. Every system in the body must be checked carefully by examination and laboratory tests so that each patient can be brought to the best possible preoperative condition.

ANATOMY AND EXPOSURE

The situation of the pancreas with its intimate association with other organs and vital structures in the upper part of the abdomen presents a difficult problem. This is particularly true in some cases of tumor and in cases of pancreatitis in which the normal landmarks are distorted and natural planes of cleavage are destroyed. In excision of the tail and body of the pancreas, either the spleen must be removed or very careful efforts must be made to prevent interference with the blood supply to the spleen, which is in close association with this part of the pancreas. In removal of the head of the pancreas, the inferior vena cava, portal vein, superior mesenteric artery and vein, the middle colic vessels, and the hepatic artery all must be dissected out and damage to them avoided. The complexities of the operation and the many problems involved become apparent when it is considered that in removal of the head of the pancreas a complete rearrangement of the routes must be provided for the biliary, pancreatic, and gastroduodenal systems, each of which presents difficult problems.

First, biliary anastomosis must provide free biliary drainage and, at the same time, the development of ascending cholangitis due to loss of sphincteric action at the ampulla of Vater must be avoided, if possible. I believe that direct anastomosis of the end of the common bile duct to the small intestine is preferable to anastomosis of the gallbladder to the bowel. However, in occasional cases in which no biliary obstruction has occurred, the common bile duct may be too small to permit safe anastomosis. If the gallbladder is used, the common bile duct must be ligated well below the entrance of the cystic duct so that no interference with this route of flow of bile will occur. There are technical disadvantages to ligation of the common bile duct. It is often difficult to obtain completely satisfactory closure of the end of the duct, and even though satisfactory closure is obtained, the blood supply to the lower end of the duct is such that healing may be jeopardized and sloughing may occur. If a fistula develops, it will rarely close, since the fistula, under these circumstances, provides more direct drainage of the biliary system than the circuitous route through the cystic duct and gallbladder.

In resection of the tail and body of the pancreas the cut end of the pancreas can be closed with interrupted mattress sutures and with little if any leakage. When the head of the pancreas is resected, the question of handling the cut end of the organ is difficult. It can be ligated and closed with mattress sutures, but a temporary pancreatic fistula almost invariably develops. The alternative is to anastomose the cut end of the pancreas to the intestine. The cut end of the pancreas does not lend itself well to anastomosis. It is friable and lacks the good peritoneal coat necessary for satisfactory anastomosis. However, a variety of techniques have been developed. I prefer the anastomosis of the end of the pancreas to the end of the jejunum with interrupted silk sutures when possible. However, on occasion, I have anastomosed the stump of the duodenum to the end of the pancreas. The gastro-enteric anastomosis presents less of a problem than do the pancreatic and biliary anastomoses. A safe, satisfactory connection betwen the stomach and small intestine almost always can be provided. I prefer to anastomose the pancreas and common bile duct to the most proximal part of the jejunum, and to make the gastrojejunal anastomosis a little distal to the other anastomoses. Development of ascending cholangitis is less likely to occur. In most reported cases only a small amount of the antrum of the stomach has been resected. However, I believe that on theoretical grounds, at least, fairly extensive resection is desirable, so that production of acid by the stomach will be reduced and the possibility of peptic ulceration at the gastrojejunal anastomosis will be minimized. So far as I know, this complication has not developed postoperatively in reported cases but I am sure that it is a possibility to be considered and guarded against. More radical resection of the stomach would add little to the operation and might be very beneficial.

PHYSIOLOGIC PROBLEMS IN SURGERY OF THE PANCREAS

Much is yet to be learned about the physiologic problems of surgery of the pancreas. Too few patients who have undergone partial or total pancreatectomy have been followed long enough to enable determination of the ultimate effect of some of these procedures. Most of our present information is based on data obtained from work on experimental animals. It is known that in experimental animals the distal three-fourths of the pancreas can be removed without disturbance to metabolism of carbohydrate or fat or to digestion and absorption of foods. Experience to date would indicate that the same thing is true in man. Removal of larger portions of the pancreas in animals usually results in diabetes and hyperlipemia even though digestion and absorption of foodstuffs are relatively unimpaired. Total pancreatectomy causes a diabetic state which, strangely, seems to require less insulin for its control than is required when a small portion of the pancreas remains, and digestion and absorption of fat and protein are only moderately impaired. Administration of pancreatin to replace the lost pancreatic juices is not completely effective but it does produce improvement in digestion and absorption of food in both human beings and animals who lack pancreatic juices.

Some surgeons of considerable experience question the desirability of any attempt to anastomose the pancreas to the jejunum after resection of the head of the pancreas, believing that it only adds to the length and difficulty of the operation and that any necessary substitution for pancreatic secretions can be provided without difficulty. It certainly is true that pancreatic anastomosis is a difficult technical problem. However, it can be overcome. At the clinic we have carried out careful nutritional studies in a number of cases in which anastomosis has been made and in cases in which the end of the pancreas has been sutured without anastomosis. So far, we have been unable to see that patients with a pancreatic anastomosis of the remaining segment of the pancreas to the jejunum can digest or absorb food much, if any, better than those without such anastomosis. It is true, however, that in most of these cases the pancreas had been badly damaged either by pancreatitis and pancreatic lithiasis or by prolonged obstruction by carcinoma. It may be that with relief of the pancreatic obstruction some restoration of the pancreatic function may have taken place. Further studies made a year or more after operation will be necessary to determine this point, and we are carrying out such studies.

I also believe that the avoidance of a pancreatic fistula justifies the performance of an anastomosis of the pancreas to the jejunum. A fistula almost invariably develops following ligation of the pancreas after removal of the head of the organ. It usually closes eventually but it may take weeks or months for closure to occur and the fistula is most annoying to the patient. I think that avoidance of a fistula and the possible benefit of the pancreatic juice to digestion and absorption of food justify the method, provided, of course, that the patient's condition will permit this additional procedure.

Removal of the head of the pancreas makes up the great majority of operations in which pancreatic resection is necessary. The patients do have impairment of digestion and absorption of food so that large quantities of undigested food are lost in the stool and it is important that their dietary program be supervised carefully. An extremely high caloric diet, with high protein and high carbohydrate and low fat content, in most instances, should be supplemented with pancreatin.

SUMMARY

Surgery of the pancreas is in a phase of rapid development. The pancreas, being an organ of multiple functions and being intimately associated with other important organs and systems, presents a difficult problem, both with regard to surgical technique and to disturbance of physiology resulting from operation on the pancreas. These problems are being solved gradually. A very fertile field for investigation of many of the problems involved still exists.

POLIOMYELITIS IMMUNITY

Contrary to popular opinion, one attack of poliomyelitis will not always protect a person against subsequent infection, according to a report in the January 4 issue of *The Journal of the American Medical Association* by three Buffalo investigators, Dr. Edward M. Bridge, Dr. Gene H. Clarke, and Doris Abbe. A study was made of 168 persons who had had poliomyelitis one to twenty years previously. Of these, 77 had either been living in neighborhoods where poliomyelitis was present or had been exposed to persons known to have the disease. In 17 per cent of the 77 persons exposed, symptoms suggestive of a mild attack of the disease developed. These illnesses were characterized by fever and vomiting, sore throat, meningeal signs, transient weakness, or muscular spasm.

FOUNDATION PRIZE

The American Association of Obstetricians, Gynecologists, and Abdominal Surgeons has announced a Foundation Prize Contest open to specialists in those fields. Further information may be secured from Dr. James R. Bloss, Secretary, 418 Eleventh Street, Huntington 1, W. Va.

MANAGEMENT OF CARCINOMA OF THE COLON

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The notable improvement in the mortality and morbidity of colon surgery within recent years may be attributed, to a considerable extent, to improved methods of preoperative and postoperative care. The time is past when the patient was placed in the hospital one day and operated upon the next. Instead, the period of preoperative care has been gradually extended as surgeons have recognized the advantages of rehabilitating these patients to the point where they have every opportunity of coming through the surgical procedure safely and, by the use of the newer postoperative measures, of going on to recovery. Such patients are usually in a poor nutritional state from inability to take food; they are dehydrated, anemic and toxic, and their blood chemistry values have been materially altered. Fortunately, even the most desperately ill may now be treated surgically with reasonable safety by the administration of fluids intravenously, by blood transfusions, by a high caloric, high vitamin, and low residue diet, and by the use of amino acids, blood plasma, and serum globulin to restore protein deficiencies.

The majority of carcinomas of the colon being, in some measure, obstructive, a major feature of the preoperative care is treatment to overcome this complication. For advanced obstruction of the hepatic flexure or transverse colon, it may be necessary to make a vent to the surface in the cecum. For obstructions of the left half of the colon, a transverse colostomy is preferable. Within a few days after the cecostomy or colostomy begins to function well, the distal segment both above and below the obstruction is thoroughly cleansed by repeated irrigations. It is surprising how rapidly most patients respond to this decompression and drainage of the distended, obstructed colon. Rehabilitation then becomes a simpler matter: the toxic symptoms subside and improvement is manifested almost immediately.

If the obstruction is of mild degree and the distention is not extreme, a preliminary decompression by cecostomy or colostomy may not be necessary. For lesions of the right half, intubation over a period of several days may aid in overcoming the obstruction and, after operation, is of value as a precaution against tension on the suture line. Occasionally, also, the use of the intestinal tube is advisable following resections of the left colon.

In addition to treatment for the correction of nutritional deficiencies and obstruction, sulfasuxadine should be administered for three or four days before and after operation. Large doses of this drug, that is, approximately 300 grains daily, have a definite influence on the bacterial count in the intestinal tract. Following operation, even though some soiling occurs, peritonitis rarely develops and the wound promptly heals.

Not only in the preoperative and postoperative care, but in the performance of the surgical procedure itself, every effort is being made to safeguard the patient. First, the anesthetic is chosen which is best suited to the nature of the case and the condition of the patient. Fortunately, there is a variety of methods from which to choose, including caudal, spinal, intravenous, and inhalation anesthetics, all of which offer specific advantages.

For many of these patients, spinal anesthesia is most desirable, in that it is not only safe, but enhances the speed and accuracy of the surgical performance and in many cases is life-saving. The administration by the continuous method is more advantageous; one thus avoids giving an excessive amount in the beginning and is able to maintain the anesthesia over a long period of time.

In inhalation anesthesias, the use of the endotracheal tube serves to facilitate and add to the safety of the operation. By keeping the air passages unobstructed, the tube prevents straining on the part of the patient and thus promotes relaxation.

At operation, the painstaking handling of the tissues to avoid trauma and hemorrhage, and, when resection is indicated, adequate excision with wide mobilization of the colon to allow union without tension; the careful closure of the mesocolon; the accurate and thorough suture of the different layers of the colon wall in making the anastomosis, to prevent leakage; the covering of raw space; the use of sulfa drugs in the wound and incision; and measures to combat shock will profoundly influence the success or failure of the operation.

In advanced obstructions with extreme distention, no attempt should be made to explore the abdomen at the time of a preliminary colostomy to determine the cause of the obstruction. Otherwise, the bowel might escape from the abdominal cavity and resist every effort at reduction, or one might pro-

From the Sanders Clinic.
Read before the Texas Surgical Society, Temple, Texas, April 1, 1946.

duce a rupture and spread infection or metastases by even the most gentle handling. If necessary, the hand may be carefully slipped into the incision to locate the lesion, but beyond this one should be content to defer the investigation until later.

In resections for carcinoma of the right colon, we consider the one-stage operation with ileotransverse colostomy the best procedure. The blood supply is ample in this region, and the approximation may be made with little difficulty. The choice of the type of anastomosis is largely a matter of individual preference. Formerly, we employed the end-to-side technique (end of the ileum to the side of the transverse colon), but in more recent years we have preferred the side-to-side anastomosis as an open operation. The wound is usually closed without drainage and satisfactory bowel function is quickly established. Experience has proved that there is little danger of peritonitis and wound infection.

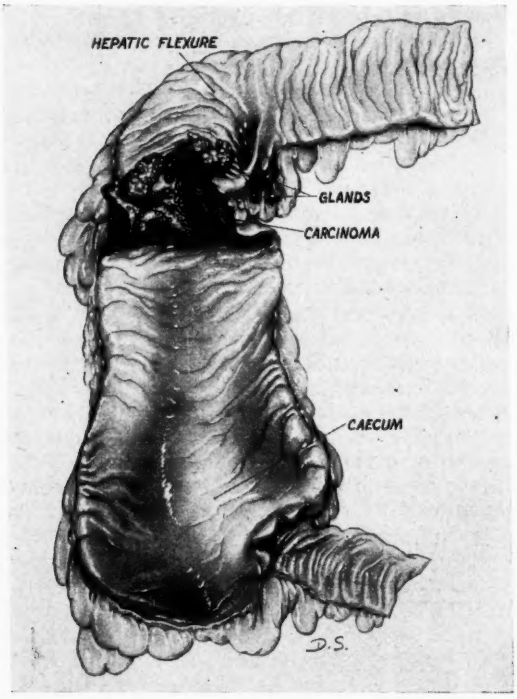

FIG. 1.—Napkin ring adenocarcinoma of the ascending colon with almost complete obstruction and glandular metastases. A one-stage right colectomy was done, with an ileotransverse colostomy, lateral anastomosis, and the wound was closed without drainage. Primary healing and an excellent functional result followed. The patient is alive and well two and one-half years after operation.

Until a few years ago, surgeons everywhere emphasized the importance of complete and thorough peritonization of the gutter after removal of the right colon. The majority have now abandoned this painstaking part of the operation, no longer making an effort to cover the raw space left by the resection. My own results have been equally as good without peritonization as by following the earlier method.

In the literature, frequent references are made to the use of the Mikulicz operation for right colectomy. We have never felt justified in subjecting patients to multiple operations when a one-stage procedure could be performed so safely. With the one-stage operation, the patient is well and out of the hospital within three weeks, whereas with the Mikulicz, the total hospitalization covers a period of several weeks. Thus, not only does the Mikulicz procedure involve repeated surgical risks and impose an unnecessarily prolonged period of disability upon the patient, but it also involves a financial imposition. If one could prove the two-stage operation to be safer, the elements of time and expense might be disregarded, but in our experience this has not been true.

As a rule, carcinoma of the transverse colon necessitates a preliminary cecostomy for decompression of the bowel and to permit cleansing of the proximal segment. After approximately two weeks, the diseased portion may be removed with a wide margin on each side, and the colon reunited end-to-end. This is probably the choice of methods in dealing with such lesions. In some cases, however, the bowel may be decompressed without the use of a preliminary cecostomy; in these cases a primary resection with end-to-end anastomosis may be carried out with safety, though a complementary cecostomy may be advisable to prevent postoperative distention. The Mikulicz technique for operations in this segment is satisfactory, yet again, this procedure has the disadvantage of involving multiple stages with their attendant risks and prolonged hospitalization.

In the management of carcinoma of the left colon, also, there appears to be a rapidly growing preference for one-stage resection with end-to-end anastomosis. Although we formerly employed the Mikulicz principle almost entirely, we now perform primary resection whenever this is consistent with the findings and the safety of the patient. A large wedge of the gland-bearing mesocolon may be removed with equal ease by the two methods. In several cases, we have applied primary resection with end-to-end anastomosis to lesions as low as the rectosigmoid juncture.

Following all resections, we prefer the

open method of anastomosis, in that the end-to-end approximation with a wide stoma is more easily accomplished. With adequate closure of the mesocolon, proper suture of the different layers of the colon walls, and the generous use of sulfa drugs, obstruction and infection are remote possibilities.

As a safeguard against postoperative obstruction and tension on the sutures, one may do a preliminary or complementary transverse colostomy in resecting the left colon, though we have dispensed with this part of the procedure when the colon has been thoroughly cleansed and all inflammation has subsided. If a preliminary colostomy is made, sulfasuxadine is injected into the distal segment a few days prior to operation. Drainage is rarely necessary.

After resection, it is our custom to leave any cecostomy or colostomy undisturbed for two weeks, or until union has taken place. Irrigations are then instituted from below, and if the anastomosis is found to be patent, the colostomy is closed.

One feature of the surgical technique which we unfailingly observe concerns the closure of colostomy wounds. We have found that delayed closure, that is, packing the wound with antiseptic gauze, allowing the sutures to remain untied, and, forty-eight hours later, removing the gauze and tying the sutures tight, is the best protection against wound infection. Primary healing takes place in practically every case.

With all the refinements of preoperative and postoperative care, we have grown more and more bold in our surgical attack upon carcinoma. We are now doing resections even in the presence of a moderate amount of liver metastases, having found that occasionally a life is thereby prolonged a surprising length of time, and at least the patient's remaining existence is made more tolerable by extirpation of the original growth.

Nor do we hesitate to do a resection when the lesion has invaded an adjacent viscus, provided the risk is not too great. If one follows the rule of doing as radical extirpation as possible, one may sometimes add years to a patient's life. This point was well demonstrated in one of our cases; in fact, the patient in question has the longest survival record of any of our entire series. He was operated upon by two of my associates in 1925, for carcinoma of the sigmoid with extension to the bladder. The tumor was removed, together with a wide margin of the surrounding colon and bladder. At that time, he was 40 years of age. He is living and well today, twenty-one years later. This case is, of course, unusual; on the whole, the mortality rate is higher following efforts to remove such extensive lesions. Nevertheless, we believe that, other things being equal, the possibility of prolonging life to a worth-while extent and of affording the patient additional relief justifies resection.

Another fact with which we have been impressed in our experience with colon surgery is that the abdomen should be explored throughout at the time of laparotomy. Occasionally, one will be surprised to find

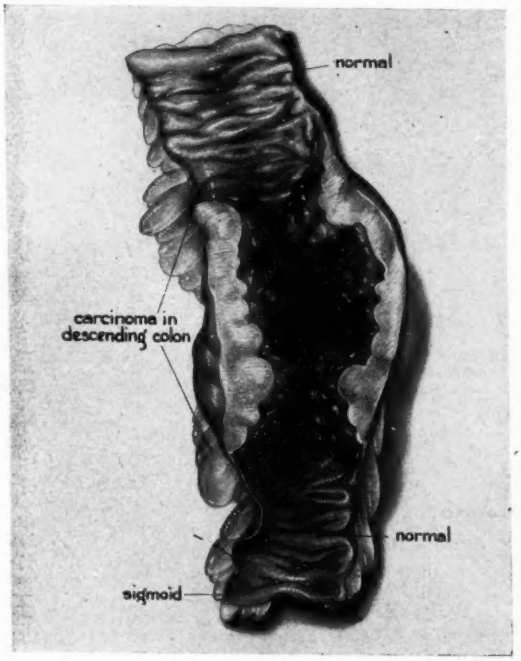

FIG. 2. An unusual type of obstructive adenocarcinoma of the descending colon. The growth had perforated onto the ileum, requiring resection of 20 inches of the intestine. The descending colon, together with a portion of the sigmoid, was removed, an end-to-end anastomosis made, and a complementary cecostomy done. After prompt healing, function of both the small and large bowel was restored. A local recurrence with metastases in the liver was discovered eighteen months following operation and the patient died a short time later.

multiple malignancies, either in the colon alone or in association with growths elsewhere. One of our patients had simultaneous carcinomas in the ascending and transverse segments. He is still living and apparently well nine and one-half years after a right colectomy. Another had distinct malignancies in the cecum and hepatic flexure. The cecal growth was found and removed elsewhere. The symptoms continuing, the patient came to us a short time later, and it was then that the lesion at the hepatic flexure was discovered. A third patient had a resection for carcinoma of the cecum in 1931.

He returned in 1941, ten years later, with 2 carcinomas, 1 in the jejunum and the other in the transverse colon. In addition, several of our women patients have had malignancies of the ovaries or other organs simultaneously with the carcinoma of the colon.

During the past thirty years we have operated upon 209 patients with carcinoma of the colon and rectum, exclusive of those who had

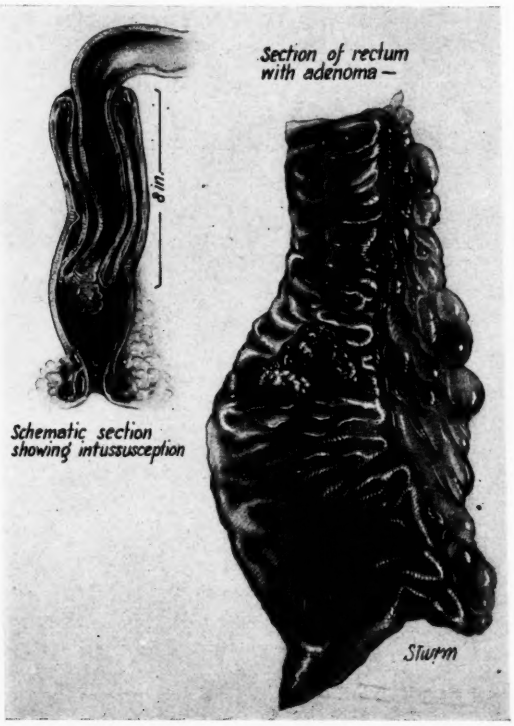

FIG. 3. Malignant adenomatous polyp of the sigmoid with intussusception and obstruction. The sigmoid was resected, an end-to-end anastomosis made, and a complementary cecostomy done. The wound healed primarily and the patient recovered without event and is still well, two years after the operation.

only an exploration. These constitute more than three-fourths of all our surgical cases involving diseases of the colon. The distribution of the growths is shown in table 1.

TABLE 1—*Distribution of 209 Carcinomas of the Colon and Rectum.*

Cecum and ascending	24
Hepatic flexure	9
Transverse	16
Splenic flexure	5
Descending	6
Sigmoid	55
Rectosigmoid	26
Rectum	68
Total	209

Of the lesions listed in the table, 33 or 15.8 per cent, were in the right colon; 16, or 7.6 per cent, were in the transverse segment; and 160, or 76.5 per cent, were in the left half. Of those in the left colon, 68, or 42.5 per cent, were in the rectum. The sex incidence of the patients was slightly higher among the females, as shown in table 2.

TABLE 2.—*Sex Incidence of 208 Patients With Carcinoma of the Colon and Rectum.*

Males	101*
Females	107
Total	208

*One patient had 2 resections.

Since, for present purposes, only carcinoma of the colon is of interest, the 68 cases of rectal carcinoma, as well as 13 cases of carcinoma of the rectosigmoid in which abdominoperineal resection was done, have been excluded from further study. This leaves a total of 129 cases of colon carcinoma. Further, believing that those cases in which the newer methods and adjuncts to treatment have been employed can be better analyzed, I have divided both these groups into two series: those in which resection was performed prior to 1939, and those in which resection was performed during or after 1939 (table 3).

TABLE 3.—*Resections of Colon for Carcinoma in 129 Cases, With Mortality.*

	Cases	Resections	Mortality
Prior to 1/1/39	37	18 (50%)	6 (33.3%)
Since 1/1/39	92	65 (70%)	1 (1.5%)
Totals	129	83 (64%)	7 (8.4%)

From an analysis of table 3 two facts are outstanding. The first is that the resectability for carcinoma has increased from 50 to 70 per cent, or 20 per cent, during the past six years. We believe this is largely attributable to the use of more scientific methods of medical management as well as to better anesthesia. Undoubtedly, we have been more courageous in our approach, having operated upon a larger number of poor risk patients, as well as a few with extensive metastases.

TABLE 4.—*Types of Resection and Mortality in 21 Cases of Carcinoma of the Right Colon.*

	Number	Mortality
Prior to 1/1/39		
One stage	2	1 (50%)
Two stage	3	0
Totals	5	1 (20%)
Since 1/1/39		
One stage	12	0
Two stage	4	0
Totals	16	0

The second outstanding fact is the reduction of the mortality from 33.3 per cent prior to 1939, to 1.5 per cent in the later series—

this despite the use of more extensive resections. We also attribute these improved results to improved medical care and, indirectly, to the fact that we have been able to simplify our surgical technique.

The types of resections employed in the right, transverse, and left colon and the respective mortality will be seen in tables 4,

TABLE 5.—*Types of Resection and Mortality in 14 Cases of Carcinoma of the Transverse Colon.*

	Number	Mortality
Prior to 1/1/39		
One stage	0	0
Multiple stage	4	1 (25%)
Totals	4	1 (25%)
Since 1/1/39		
One stage	7	0
Multiple stage	3	0
Totals	10	0

TABLE 6.—*Types of Resection and Mortality in 48 Cases of Carcinoma of the Left Colon.*

	Number	Mortality
Prior to 1/1/39		
One stage	1	1 (100%)
Multiple stage	9	3 (33.3%)
Totals	10	4 (40%)
Since 1/1/39		
One stage	17	0
Multiple stage	21	1 (4.8%)
Totals	38	1 (2.6%)

5, and 6. It will be observed that there was 1 fatality in the group of 21 resections for carcinoma of the right colon. This operation, a one-stage procedure, was performed eighteen years ago. The immediate cause of death was coronary thrombosis.

The single fatality following resections of the transverse and left colon by a one-stage procedure was that of a patient who had a carcinoma of the sigmoid. An end-to-end anastomosis was made and death was due to peritonitis incident to leakage. This was in 1921. Thereafter, we attempted no further one-stage resections of the left colon until recent years. This one death constitutes a mortality of 4 per cent for all our single stage operations for carcinoma of the transverse colon. In contrast, our mortality for all multiple-stage resections in the same region has been 14.4 per cent.

Since the beginning of 1939, we have performed 24 one-stage resections for carcinoma of the transverse and left colon, without a fatality. This, and the fact that our patients have had no postoperative infection and a materially shorter period of disability, has convinced us of the superiority of primary resection with end-to-end anastomosis. We have employed no other method in the 19 resections performed for carcinoma of the transverve and left colon during the past year and a half.

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DIVERTICULA OF THE DUODENUM

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The occurrence of duodenal diverticula was a subject of little importance until the roentgen diagnostic procedures were developed to demonstrate the lesions. In spite of the fact that the clinician is unable to make a diagnosis of duodenal diverticulosis, it is an important abnormality with which we must deal. It is of greatest importance to radiologists because the clinician must rely entirely upon them for the diagnosis.

It is generally agreed that Chomel[5] has credit for the original description of a duodenal diverticulum in 1710. It is further agreed by all available sources of information that Case[3] gave the first roentgenologic demonstration of duodenal diverticula in 1913. There have been many reviews of the literature on the subject. Among the authors are Lockhart[11] (1931), Rankin[16] (1942), and Frank[6] (1944). It is not the purpose of this paper to review the literature, except for comparative values.

INCIDENCE

The frequency of this condition varies greatly according to different reports. Beals[2] reported the incidence of 2.2 per cent in 1,887 consecutive roentgen examinations. Lockhart[11] reported 1.6 per cent. In the literature the incidence reported varies from .5 per cent to 3 per cent. Rankin[16] quoted a report from the Mayo Clinic that duodenal diverticula were found in 5 per cent of 216 autopsies. Ackermann[1] reported the incidence of 22 per cent by filling the duodenum with plaster. This is the highest incidence observed in the autopsy reports. Kirklin[10] said, "The finding of a diverticulum of the duodenum is of value chiefly as an evidence that a thorough examination of the duodenum has been made."

The material reported here consists of 2,100 consecutive roentgen examinations with an incidence of 32 cases of duodenal diverticula, a fraction more than 1.5 per cent.

There is no consistency in either sex predominating in incidence of duodenal diverticula. Of the 32 cases reported here, 17 were females. Warren and Emery[17] gave comparative figures of six different studies. In their figures the male incidence is slightly predominant.

In the group of cases reported here the

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occurrence is far more frequent above the age of 50 years (table 1).

TABLE 1.—*Age Distribution in 32 Cases of Duodenal Diverticula.*

Age	No. Cases
30-39	2
40-49	3
50-59	12
60-69	12
70-79	2
80	1
Total Cases	32

LOCATION AND PATHOGENESIS

In the present group of cases, 22 were demonstrated on the second or descending portion of the duodenum. In some, the lesions were multiple. In only one instance was the diverticulum demonstrated on the lateral or convex aspect of the duodenum. Eight cases of diverticula were found on the third or transverse portion of the duodenum, and 2 on the fourth portion.

Duodenal diverticula are now generally classified as primary and secondary.[6] In the primary the cause is not known; the secondary type is found only in the first portion of the duodenum and the cause is determined.

The other classifications, "congenital" and "acquired," "true" and "false," are still used by many authors.[9,16] Some authors disregard the classification and emphasize that most of the diverticula occur on the medial side of the second portion of the duodenum.[18]

The etiology of duodenal diverticulosis is not precisely known. All authors agree that a weakness in the area of the ampulla of Vater is caused by the bile and pancreatic ducts passing through the walls, as well as by increased circulation. It is of some significance that nearly all diverticula appear along the concave border of the gut, where the mesenteric vessels occur. Age must be an important factor in developing a weakness of the walls of the gut. There seems to be little definite information concerning the pressure in the duodenum as a cause of diverticula.[3] Diverticula are not considered congenital in the sense that they exist from birth, because they are rare in young people.

DIAGNOSIS

The diagnosis is relatively simple but it can be accomplished only by a thorough roentgen examination. A diverticulum is demonstrated by a mass of barium in a pouch, which is generally rounded and is attached to the gut by a pedicle of varying size, and in communication with the stream of barium in the gut.

The pouch cannot always be demonstrated, because of lack of filling or of rapid expulsion of barium. In the present series, the diverticula were demonstrated in 4 cases on the second examination. The first examination had been done by a competent radiologist. In view of the higher incidence of this condition found at autopsy rather than by roentgen examination, it is obvious that not all diverticula can be demonstrated in vivo.

Ulceration in the second portion of the duodenum is a point for differential diagnosis. Narrowing of the gut lumen, destruction of the mucosa, and the presence of a pedicle must be considered. Retained barium in the ampulla of Vater is also easily confused with a small diverticulum.

The symptoms most frequently mentioned in the 32 cases of diverticula being reported are listed in table 2. Such symptoms are of relatively little value toward the diagnosis of this condition. It is difficult for me to say to a complaining patient that diverticula are asymptomatic when a roentgen examination of the gallbladder and gastro-intestinal tract are normal except for the presence of a diverticulum.

TABLE 2.—*Principal Symptoms in 32 Cases of Duodenal Diverticula.*

Symptom	No. Times Noted
Sense of fullness with general soreness	3
Generalized abdominal pain	4
Upper abdominal pain	24
Cramping pains	6
Hunger pains	5
Diarrhea	3
Vomiting	4
Gastro-intestinal hemorrhage	3

It is my opinion that tenderness of the diverticulum is an important diagnostic factor in determining otherwise undisclosed causes for symptoms. In such case, there is associated functional disturbance. Bockus[3] said that rarely is evidence of inflammation found in the tissue of the pouch, but the presence of heterotopic pancreatic tissue is frequent. Buckstein[4] stated that a diverticulum may give rise to symptoms as the result of ulceration.

Associated gallbladder disease is relatively frequent. It is considered important that the existence of the diverticula around the ampulla of Vater may cause disturbance in the normal bile drainage. The same principle may cause pancreatitis. In this group of cases, carcinoma of the stomach was present once, duodenal ulcer three times, esophageal hiatus hernia once, and amebiasis once. The amebiasis accounted for hemorrage in 1 case.

TABLE 3.—*Gastric Acidity in 32 Cases of Duodenal Diverticula.*

Condition Found on Gastric Analysis	No. Cases
Absence of free hydrochloric acid	5
Free hydrochloric acid below normal	11
Normal free hydrochloric acid	10
Free hydrochloric acid abnormally high	6

Bockus[3] has concluded that gastric acidity has no definite relation to duodenal diverti-

cula. Results of routine gastric analysis in the 32 cases I am reporting are indicated in table 3.

There is only one general opinion to draw from the table, and the series is too small to be conclusive. In 50 per cent of the cases, the free hydrochloric acid is low or absent, while in relatively few cases it is abnormally high.

TREATMENT

It is not primarily within the scope of this paper to outline treatment for duodenal diverticula. However, radiologists, as consultants, are frequently questioned by clinicians as to the significance of duodenal diverticula and what should be done about them.

The treatment of this condition is divided into medical and surgical. Weintraub and Tuggle[18] concluded from the examination of 310 cases that the symptoms complained of were not due to the diverticula in a single instance. If the physician holds that opinion, there is no treatment. The clinician must decide first if the symptoms are due to the diverticula or to some other cause. Bockus[3] believed that surgical intervention is required in few cases. It is required for obstruction, severe periduodenitis, repeated severe hemorrhages, and, of course, for such a complication as perforation.

Ogilvie[14] reported 3 cases of pancreatic necrosis associated with diverticula around the ampulla of Vater. Warren and Emery[17] reported a localized abscess in 1 case. Rankin[16] stated that the treatment of duodenal diverticula is surgery. Pearse[15] gave the following indications for surgical intervention: (1) mechanical (symptoms from stasis in the diverticulum; symptoms from obstruction of the biliary tract, pancreas, or duodenum); (2) inflammatory (primary diverticulitis or perforation; secondary inflammation of the biliary tract, pancreas, duodenum, or retroperitoneal tissues); and (3) neoplastic changes.

McKinney[13] reported a case successfully handled surgically and another in which the patient improved under medical treatment. Lucinian[12] reported a case of perforation into the pancreas, which was successfully resected. Kellogg and Kellogg[8] stated that any diverticula which cause symptoms should be treated surgically. Glickman[7] reported 2 cases treated surgically. One of the patients had a cholecystectomy without relief.

The medical treatment of this condition most frequently referred to is the peptic ulcer regimen. In addition, postural drainage is beneficial in the cases where the bowel contents are abnormally retained in the pouches.

In this series of cases,[9] patients with associated gallbladder disease were treated as follows: cholecystectomy—3, with poor results; cholecystectomy—1, with good results; and medical treatment—5, with good results. One of the 5 cases without free hydrochloric acid responded to oral administration of acid.

The usual ulcer regimen in our clinic relieved 12 cases, among which were 3 cases of duodenal ulcer, and gave poor results in 3 other cases.

SUMMARY

1. Duodenal diverticula is a subject of growing importance with the improving perfection of roentgenologic diagnosis.

2. This condition occurs more frequently than is generally thought.

3. The diagnosis in vivo depends entirely upon the roentgenologist.

4. A report of 32 cases from 2,100 roentgen examinations is given.

5. There is no diagnostic complex of signs and symptoms in this condition.

6. There are some grave complications.

7. The treatment is medical and surgical.

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ABSTRACT OF DISCUSSION

Dr. Walter J. Stork, Houston: Dr. Barsh's timely paper brings to our attention the high incidence of duodenal diverticula. They are more often found incidentally, but nevertheless their finding shows the diligence and constant stride of the roentgenologist toward perfection of a technique in examining the patient.

It is agreed that many duodenal diverticula are asymptomatic. These pouch-like projections, when found in the duodenum, usually occur in the second portion. Physicians agree that these sacs are abnormal and as such offer an abnormality with which they must deal. By virtue of their location, they are frequently associated with unexplained symptoms, not only after the patient has recovered from disease of the gallbladder and pancreas, or peptic ulcer, but

often when no other abnormality is demonstrable. For this reason, it requires special skill and painstaking efforts on the part of the roentgenologist to convey to the clinician adequate information concerning the diverticulum, once its presence has been established.

The importance of eliciting definite tenderness upon pressure over the diverticulum, the retention of barium in the sac up to six hours, and tenderness in the upper right quadrant are worth stressing. When no other cause or causes of the patient's complaints have been found, the clinician, with these findings, usually is willing to accept the diagnosis of diverticulitis. Likewise, it might be well to stress that when a duodenal diverticulum is found, other causes for the patient's complaints should be ruled out by adequate study. Occasionally the examiner finds diverticula and fails to look further along the small intestines for other changes from the normal. Occasionally the same neglect is exhibited when an abnormality of the duodenal cap is found and the examiner fails to look further along the duodenum. This may prove embarrassing later if the patient's symptoms persist after the ulcer has apparently healed and a diverticulum is found in the other portions of the duodenum on reexamination. Most physicians will agree, however, that these pouches are not always found on first examination.

I believe if the sac retains barium up to six hours and if there is tenderness upon pressure, the diverticulum should be removed. Time honored experiences and tests have taught that stasis and repeated irritation are followed by inflammation and even neoplasm. Certainly, after medical measures have failed, surgery should follow without too much delay.

Retention of a calculus in these pouches has occurred in diverticula elsewhere in the gastro-intestinal tract. This, too, would be an indication for surgery. Malignancy occurring within the irritated diverticula is to be expected. Recently, I saw a carcinoma of the esophagus originating in a large diverticulum of the upper gullet, known to have existed asymptomatically for many years.

It might be added that the retention of barium in the second portion of the duodenum from compression or partial obstruction due to vascular anomalies, persistence of the hepato-duodenal-colic ligament, or annular pancreas might be mistaken for a diverticulum.

MUSTARD GAS AS CHEMOTHERAPEUTIC AGENT

An improved form of mustard gas, "nitrogen mustard," developed during the war has been found to produce much the same effect as roentgen radiation on neoplastic tissue. Capt. D. A. Karnofsky, Army Medical Corps, who has worked in coöperation with Drs. L. F. Craver, C. P. Rhoads, and J. C. Abels, has submitted a paper to the Surgeon General of the Army reporting that in certain cases of Hodgkin's disease nitrogen mustard had induced temporary symptomatic remissions after roentgen therapy was no longer feasible or effective. It was pointed out, however, that under present methods of therapy mustard gas offers no therapeutic advantage over properly used roentgen rays, and that the latter are actually to be preferred until additional studies can be made.

HOSPITALIZED VETERANS INCREASE

The number of veterans hospitalized by the Veterans Administration reached an all-time high on January 22, when 119,845 veterans were receiving treatment, the Veterans Administration reports. The load of veteran-patients has been steadily increasing, but the number awaiting hospitalization has been declining.

INTERMENSTRUAL PAIN

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Ninety-nine years ago, in a book called *Ovulation and Conception in Mammals*, Pouchet called attention to a type of pain which he attributed to the "contractions which the Fallopian tubes make to propel the egg toward the uterus." Subsequently many gynecologists have concerned themselves with the matter of intermenstrual pain, referred to by the English writers as "intermenstrual dysmenorrhoea" and by the German writers as "Mittelschmerz" and "Kleine Regel" (Mittel: middle, schmerz: pain; and Kleine: little, Regel: menses). In 1872 Sir William Priestley called attention to the pain and described it in some detail. In 1881 a German named Fehling gave an even more comprehensive account of it.

One is apt to become confused by the conflicting opinions of the various writers concerning the mechanism of pain perception in the pelvis. I shall not attempt at this time to review them.

Although the mechanism of periodic intermenstrual pain is unknown, it is assumed to be associated with ovulation. It may be due to the rupture of the follicle, to chemical irritation of the subjacent tissues, to a sympathetic imbalance of a painful nature involving the vascular or nerve trunks, or to an unknown hormone picture. It may even be due to the contractions of the tubes and uterus in an effort to pick up and propel the ovum along its course immediately after its release from the follicle. It is probably due to the irritation of the peritoneum by the blood spilled on it at ovulation, as the pain occurs even after section of the pre-sacral nerve.

Intermenstrual pain is a more common occurrence than is appreciated. It is a condition of early sexual maturity, 66 per cent of the cases occurring before the age of 20, and 90 per cent before the age of 30. It always occurs about midway between the menstrual periods at a time corresponding to the usually accepted time that ovulation occurs. Some women can predict the day and almost the hour that the next menstrual flow will begin from the onset of the pain. It has been the observation of many that the pain has no relation to sterility, as 80 per cent of the cases observed by Wharton have conceived. Some patients experience the pain each month, others only two or three times during the year.

The location of the pain is usually in the suprapubic region or in one or both iliac

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fossae. It may radiate to the umbilicus, the perineum, or even downward to the right knee. McSweeney and Wood stated that the presence of cysts causes the pain to localize in the lower right quadrant even if it is shown that the left ovary is the ovary involved. They also considered trauma, such as walking, bending, running, coitus, and getting out of bed, as being precipitating factors. The acute pain usually lasts only a few hours, gradually lapsing into a sense of dull discomfort throughout the lower abdomen. The intensity of the pain varies from slight to very severe. This difference is influenced to some extent by the sensitivity of the individual patient and the quantity of blood spilled on the peritoneum.

The diagnosis is easily confused with appendicitis, ectopic pregnancy, and twisted pedicle. Important diagnostic points include history of one or more previous similar attacks, onset of the pain at a time about two weeks previous to the next expected menstrual period, associated vaginal bleeding most often determined only by microscopic examination of vaginal washings, painful breasts, and slight leukorrhea. The blood count in most cases shows only a transitory rise, rapidly returning to normal. There is usually no elevation of temperature above 99 to 99.4 F. Any considerable elevation of temperature is probably due to infection in the pelvis or elsewhere. The tenderness and rigidity are most often found in the lower right quadrant. Vaginal and rectal palpation usually elicit tenderness. Careful questioning may bring out history of trauma, as above mentioned, about the time of the onset of the pain. Pregnancy completely rules out intermenstrual pain as it never occurs without ovulation. It is often found in patients with a history of dysmenorrhea.

Conscientious observation and repeated clinical and laboratory examinations when the condition is not too acute may often avoid unnecessary operations.

It has been my experience that when the diagnosis has been made and the cause of the pain explained to the patient, some type of mild sedative and rest suffice for the treatment. In those instances where the symptoms are acute enough to warrant operation, a low, midline incision should be used to allow thorough exploration of the pelvis.

Occasionally thyroid therapy has been reported of value in preventing recurrence of the episodes. Hormone therapy has not often been of value, though testosterone, estrogen, and progestin have been tried. Wharton stated that ovarian denervation would be the treatment of choice if there were any satisfactory way to denervate the ovary.

SUMMARY

Intermenstrual pain is more common than is generally appreciated. It is logical to assume that the pain is associated with ovulation. A careful history, with repeated clinical and laboratory examinations, will often prevent an unnecessary operation. If an operation is done, it should be through a low, midline incision with conservation of all normal tissue the rule.

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Fisk Building.

CLINICAL EXPERIENCES WITH INTRACRANIAL COMPLICATIONS OF EAR AND SINUS DISEASES

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This paper records my experience with 7 cases of meningitis, 4 cases of brain abscess, and 1 case of so-called otic encephalitis, encountered in the short period of five months. There were 11 recoveries and 1 death.

Of the 7 cases of meningitis treated, 5 complicated ear infections and 2 frontal sinus diseases. Three of the patients were admitted to the hospital with meningitis following short periods of infections; 2 developed meningitis within forty-eight hours after admission, following brief periods of treatment for fulminating otitis media in one case and frontal sinusitis in the other, prior to admission. One meningitis condition developed six weeks after mastoidectomy in a case of petrositis, evidenced by roentgen ray only, which was apparently draining satisfactorily through natural channels and which subsequently healed without surgical invasion of the petrous pyramid. One case developed seventy-two hours after the very violent onset of right otitis media in a patient who had a resolving left otitis media.

All the cases reported in this paper were from the Ear, Nose, and Throat Service of the United States Naval Hospital, San Diego, Calif. The opinions expressed are those of the essayist, and in no way reflect the opinion of the Navy Department.

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None of these could be attributed to late surgical intervention because of the masking effect of sulfonamide drugs.

Both frontal sinus conditions were drained surgically, and 4 of the 5 ear patients had mastoidectomy.

The frontal sinus in both cases was treated by drainage through a small trephine opening in the floor of the sinus only, without subsequent surgical interference. One patient, a British sailor, who had developed meningitis five days after the onset of symptoms, was under observation for five months, and returned to England apparently free of frontal sinus disease. The other patient, who developed meningitis forty-eight hours after the onset of his sinusitis, recently reported no recurrence of symptoms of sinusitis after more than two years.

One ear patient developed meningitis forty-eight hours after the onset of otitis media, and both the meningitis and the otitis media disappeared under sulfadiazine and penicillin therapy, and at no time showed roentgen or clinical evidence of mastoid involvement. There were no surgical procedures in this case. The other 4 patients had mastoidectomies done after the meningitis was completely or very largely controlled by sulfadiazine and penicillin. In none of these cases was there encountered at operation a gross lesion such as eroded sinus or dural plate or extradural abscess, which would explain the spread to the meninges.

Every case showed in excess of 1,000 white blood cells per cubic centimeter with 80 per cent or more polymorphonuclear leukocytes on initial spinal tap. However, in only 4 cases organisms were cultured from the spinal fluid. This was most likely because all patients had received large doses of sulfadiazine and some of the patients had been treated with intravenous sulfadiazine. Of those culturing organisms two were beta hemolytic streptococci, one was an indifferent streptococcus, and one was streptococcus viridans—this last confirmed by pure culture on two successive days.

In considering the therapy carried out in these cases, it should be remembered that they occurred within the first year that penicillin was made available to Naval hospitals, when the supply was limited and strictly rationed.

When it was established that a patient had developed an intracranial infection, he was treated routinely with an initial dose of 6 gm. of sodium sulfadiazine intravenously, followed by 2 gm. of sodium sulfadiazine intravenously every four hours and 1,000 cc. of normal saline solution intravenously every eight hours, with one .1 molar sodium lactate solution to maintain alkalinity. This treatment was continued for from forty-eight to seventy-two hours. If satisfactory improvement was not obtained, penicillin therapy was instituted: 10,000 units intramuscularly every three hours and 7,500 units intraspinally every twelve hours. This dosage was later cut to one instillation of 7,500 units intraspinally every twenty-four hours. One of the patients responded readily to sulfadiazine and was treated without penicillin. Three of the 7 patients were free of evidence of meningitis after 300,000 units of penicillin and in no case was it necessary to give more than 600,000 units before the patient was considered recovered from his meningitis. No recurrences were encountered. It should be pointed out that all these patients except 1 failed to make satisfactory progress on sulfadiazine but became free of meningitis in a similar period of time after penicillin was given. Sulfadiazine was given as outlined, in conjunction with the penicillin and was continued for a varying period after the penicillin was discontinued. This procedure was followed in spite of the fact that the patients had not responded satisfactorily to sulfadiazine alone in view of the very strong evidence that there is a synergistic action when sulfadiazine and penicillin are given together. Sulfadiazine was continued after penicillin was discontinued because of the limited supply. This procedure was followed although early response to sulfadiazine had been disappointing, with the idea that even though the organism might be partially resistant to sulfadiazine there would be some bacteriostatic effect, especially after the organism had been largely overcome by penicillin. This was borne out by laboratory tests which indicated varying degrees of sensitivity of some of the organisms to sulfadiazine.

Unfortunately, we were not equipped to determine penicillin levels, but admittedly the dosages used were minimal, and certainly it would be advisable to use larger doses for longer periods today with an almost unlimited supply available. The good results in the cases reported may be partially explained by the fact that they involved streptococci, which are the organisms most susceptible to penicillin, being four to sixteen times more susceptible than straphylococci.[1] However, I believe that the results were due more to the intraspinal administration of penicillin. It has been shown that although penicillin administered intramuscularly is secreted into the spinal fluid, the process occurs more slowly and to a much lesser degree than secretion into the other body fluids.[2, 9, 10] On the other hand, small quanti-

ties injected intraspinally give effective concentration[10] for twenty-four hours or longer, especially when supplemented by intramuscular administration[2], as was done in the reported cases.

The irritation produced by penicillin given intrathecally to normal persons is definite, as evidenced by very high white blood cell counts[9]. However, the cases referred to in this report showed decided drops in the spinal fluid white blood cell count, falling as low as 25 cells per cubic centimeter while treatment was still in progress. There were no general irritative signs in 11 cases so treated. There have been several reports in the literature of rather alarming irritative symptoms following intrathecal injection of penicillin, but all have cleared up without permanent sequelae, and in each instance reported, enormous doses up to 50,000 units were used. As pointed out by one observer, the same symptoms occurred after the administration of intrathecal antimeningococci serum[11] on occasion. As 10,000 units have been shown to produce more than satisfactory levels for twenty-four hours without irritative symptoms,[2, 11] and as the penicillin has been shown to diffuse to all parts of the spinal fluid circulation,[2] intrathecal injection of small quantities of penicillin seems to offer an ideal, sure way to maintain adequate levels in the spinal fluid without undesirable effects.

Of the 4 patients with brain abscess and the 1 patient with otic encephalitis (This term is used to indicate an intracranial infection with all the localizing symptoms of brain abscess, but in which no fluid is obtained on exploration of the brain.), all had accompanying meningitis. Each received penicillin and sulfadiazine about as outlined, to control the meningitis, but, of course, it was not thought that the intrathecal penicillin influenced the course of the brain abscess. Rather, the penicillin in the blood stream, introduced by intramuscular injection, had its effect on the abscess.

Four of these cases, together with others, were reported by Dr. Leonard T. Furlow, of St. Louis. The main points of his paper were, first, that penicillin was no substitute for surgery and drainage of the abscess and, second, the superiority of penicillin over the sulfonamide drugs in controlling the spread of these infections. I would like to reemphasize these two points, particularly the first with reference to the necessity of adequate surgery in the presence of localized pus. In addition, I want to point out forcefully the great localizing effect of penicillin on brain abscesses.[4] Meningitis accompanying brain abscess, formerly considered a fatal combination, is readily controlled; the spreading encephalitis is arrested, and apparently localization with encapsulation is encouraged, as all of my patients were operated on very soon after the development of symptoms, and a definite capsule was encountered in each case.

Formerly it was necessary to wait until all signs of meningitis and encephalitis had subsided before exploration of the brain was attempted.[4, 5, 7] Interference in the acute stage was considered futile and most likely to lead to disastrous results. It was necessary to go through a period of waiting and hoping for localization, knowing that the process might never localize.[4]

The case of otic encephalitis was explored in the presence of symptoms of meningitis by attempted paracentesis involving repeated puncture of the brain cortex, but the patient went on to early recovery despite this interference, formerly considered fatal. After my experience with these cases I believe that exploration by paracentesis should be done as soon as definite symptoms of brain abscess become apparent or may be demonstrated by encephalogram.

There has always been a difference of opinion as to whether these cases are best drained through the mastoid wound or through a clean field, both opinions being based on the idea of stalk leading from the area of original entrance of the infection to the abscess cavity.[4, 5, 6, 7] One idea is that it is best to follow this tract. The other is that the tract is usually so narrow that it must be enlarged, and in enlarging the tract, healthy brain tissue will be invaded, some of the tissue destroyed, and additional areas of the brain exposed to infection from the mastoid or sinus cavity. The other difference of opinion in the management of brain abscess is paracentesis versus uncapping and wide drainage.[4, 5, 6, 7] Opinions range from the belief that brain abscesses should all be uncapped and widely opened, to Dandy's[6] idea that they should all be treated by paracentesis.

Needless to say, an abscess presenting itself at the meningeal surface at mastoidectomy should be opened at that point,[7] and such drainage employed as might be indicated by the conditions present. I do not believe that the meninges should be incised for purposes of exploration. Certainly multiple incisions should not be employed as has been recently advocated.[1]

The one brain abscess in my experience prior to my entry into military service was not suspected before the operation. An opening was found in the meninges, and extension of this opening revealed a definite tract

leading into an abscess cavity deep in the brain tissue. A similar case was recently reported by Daily[3]. However, in the absence of necrotic dura or an obvious path, I believe the abscess should be approached through a clean field.

In attacking these conditions through a clean field by paracentesis, the danger of contaminating healthy tissue by breaking down natural barriers is reduced to a minimum, and much functioning healthy brain tissue is saved, which tissue must of necessity be destroyed in wide uncapping.

Grant,[6] in reviewing 100 cases of brain abscess seen at the University Hospital, Philadelphia, between 1926 and 1940, found 53 deaths and 47 recoveries. There was a 33 per cent mortality in those treated by tap, or tap and closed drainage, where a small tube alone was inserted, and a like, or a 33 per cent mortality in those cases managed by wide drainage. Enucleation gave a 50 per cent mortality. Grant found in this series that the trend was distinctly toward conservative management. In 29 patients treated by tap or tap and drainage, followed adequately, 7 or 24 per cent showed neurological sequelae, which handicapped them economically, and 22 patients, or 76 per cent, had returned to their former occupations without handicap. Of 12 patients treated by wide drainage, with the necessary cortical destruction, 9 or 75 per cent suffered neurological sequelae of such a nature that they were seriously handicapped. The use of wide drainage did not in the least lower the mortality of his series, and greatly increased the crippling sequelae. He emphasized that all care should be used to preserve brain tissue and that conservative treatment should be used until it has proved to be inadequate.

The sulfonamide drugs and penicillin make the more conservative, less destructive measures more plausible,[4] for although they do not avoid the necessity for evacuation of pus, it is known that after the pus is removed abscesses quickly become sterilized under the influence of these drugs.

Of 4 brain abscesses in my series, 3 resulted from ear infections and 1 from a frontal sinus infection. The 3 ear infections and the case of otic encephalitis were treated with mastoidectomies. At operation, 2 patients revealed extradural abscesses. The case arising from frontal sinusitis had wide external drainage of the sinus. Four of these cases were treated by simple tap, and all 4 patients recovered with drainage from a single paracentesis. Three showed no neurological sequelae, but the patient with otic meningitis had considerable speech difficulty, but far from a complete aphasia. All these lesions occurred in the temporal lobe.

The surgical technique employed was a small trephine opening over the location of the abscess, a small incision in the dura, and the edges of the dura sealed to the cortex with electrocoagulation. A brain aspirating needle was inserted through the cortex into the abscess and the contents aspirated. All patients recovered following a single aspiration.

The case resulting from left frontal sinusitis was attacked through the frontal sinus nineteen days after the external sinusotomy, and the abscess which was close to the dura was widely opened and packed. This patient died within twenty-four hours. At autopsy, a large superficial abscess was found in the left parieto-occipital area. This was not a failure of treatment, but, rather, a failure of diagnosis, and it emphasizes the fact that penicillin and the sulfonamides are not substitutes for surgery.

All these abscesses were tapped by Dr. Leonard T. Furlow, head of the Neuro-Surgical Service of the U. S. Naval Hospital, San Diego, Calif., in consultation with the Ear, Nose, and Throat Service, in which all the cases occurred, as the specialties were sharply divided, and the responsibility for certain types of cases was firmly fixed in Naval hospitals. Only rarely does the otolaryngologist have such eminent neurosurgical talent so readily and easily available. In case such talent is not available, the surgical procedure is so simple that it can be carried out by anyone with fair surgical experience, granting his ability to determine the approximate location of the abscess.

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Medical Arts Building.

ABSTRACT OF DISCUSSION

Dr. George S. McReynolds, Galveston: I compliment Dr. Mitchell on his excellent paper and in the excellent results he has obtained in treating the intracranial complications of ear and sinus disease.

There are two points I would like to emphasize in regard to the treatment of these intracranial

complications, or in their prevention. First is the importance of the use of intravenous sulfadiazine in treating intracranial complications after they have developed. Dr. Mitchell has obtained excellent results with this therapy and I have been able by this method to treat successfully patients who had before been considered hopeless.

The second point that I would like to bring out in regard to treatment and, perhaps, more important, the prevention of the intracranial complications of ear and frontal sinus infection, is the apparent increase in such complications. I am wondering if this is not most likely due to the development of strains of organisms resistant both to sulfonamides and penicillin. Some of the research work done at the University of Texas in the Department of Gynecology has definitely demonstrated the development of strains of the gonococcus resistant to both sulfonamides and penicillin, more particularly to sulfonamides. If this is the case in ear and sinus infection, as I believe it is, more care should be taken in the treatment of minor conditions with these drugs so that in severe infections with complications there will still be a drug of some benefit.

PATHOLOGIC BASIS FOR CHRONIC CARDIAC VALVULAR LESIONS

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Rheumatic fever and syphilis are universally accepted as the leading causes of chronic valvular disease of the heart. A third important causative factor, which has received comparatively little attention, is atherosclerosis, although its effects upon the coronary arteries and the myocardium are thoroughly appreciated.

In order to have a clear understanding of the morphologic characteristics and the distinguishing features of these important types of chronic valvular lesions, 500 consecutive autopsies at Parkland Hospital, Dallas, Texas, have been reviewed and a detailed reexamination of 100 gross specimens with selected microscopic study was made.

In addition to certain types and combinations of defects of the cardiac valves produced by the different etiologic mechanisms, the distribution of the valvular lesions is a highly characteristic feature. The vast majority of these old valve lesions are found in the aortic-mitral area. This holds true whether the process is inflammatory or degenerative in type. Table 1 expresses the tendencies of the three valvular diseases under consideration to involve the various valve sites.

Ultimately the identification of the etiology in most cases of chronic valvular disease depends upon the recognition of the manner of involvement of the valve leaflets. Careful analysis of a large number of chronic valve lesions in sequence, with the opportunity for reexamination and immediate comparison, reveals that the following anatomical defects may be encountered for the moment regardless of the etiology:

1. *Commissural changes*, consisting of fusion of the lateral edges of the leaflets, widening of the commissures by a fusion of the lateral edge of the leaflet with the aorta,

TABLE 1.—*Involvement of Various Valve Sites by Three Valvular Diseases.*

Disease	Valve Site	% Involvement
Syphilis	Aortic	100
Rheumatic Fever*	Aortic	63
	Mitral	73
	Tricuspid	10
	Pulmonic	2
Atherosclerosis†	Aortic	70
	Mitral	57
	Tricuspid	0
	Pulmonic	0

*From Clawson, Bell and Hartzell[5].
†From the present series.

or of the formation of small commissural bridges of fibrous tissue.

2. Inflammatory hyaline or atheromatous *plaques forming in the base of the aorta*, involving the commissures, and leading to one of the alterations as mentioned above.

3. *Thickening of the valve leaflets.* Rigidity and subsequently shortening by contraction may occur.

4. *Calcification of the valve areas.* This is an important lesion encountered in the later stages of inflammatory and degenerative processes. The leaflet or the valve ring may be involved.

5. The *free edges of the valves* may become *thickened and rolled* because of a hyaline fibrosis. Inflammation per se does not contribute to the formation of this lesion.

6. *Dilatation of the valve ring*, except as an accompaniment of generalized cardiac dilatation, plays relatively little part in functional valvular disturbances. The surface area of the leaflets is variable and has to be reckoned with in the interpretation of the size of the valve orifice[5].

7. *Chordae tendineae* may become *thickened* by fibrosis, inflammation, or lipoid deposition. Shortening occurs in inflammatory fibrosis.

ATHEROSCLEROTIC VALVULAR DISEASE

Mönckeberg[7] originally described sclerosis and calcification of the aortic valve and attributed it to atherosclerosis. Calcific stenosis of the aortic valve has been widely studied. It has been attributed by some to atherosclerosis[10], and by others to rheumatic fever[2]. Atherosclerotic involvement of the mitral valve has received relatively scant attention, even though it is almost as common as aortic valve involvement. Hellwig[6] has described the lesion, and Rytand and Lipsitch[8] have empha-

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Read before the Section on Clinical Pathology, State Medical Association of Texas, Annual Session, Galveston, May 7, 1946.

sized the importance of calcification of the mitral annulus in producing heart block.

In 100 gross specimens in which evidence of valvular atherosclerosis was carefully sought it was found to be present in 52 cases. Of these, 14 revealed definite rigidity or deformity of the valves, while in 38 cases the lesion was very mild.

The most characteristic gross features of the lesion are involvement of aortic and mitral areas, and often the intervalvular septum; abundant lipoid deposition with yellow coloration of the aortic surfaces of the aortic and the ventricular surfaces of the mitral leaflets; tendency for the anterior mitral leaflet to be involved much more severely than the posterior leaflet; tendency for calcification; only mild deformity of leaflets in most cases; mild commissural alterations, and thickening but no shortening of the chordae tendineae.

Microscopic study of a number of the early and late stages of this valve lesion revealed a constant type of alteration. Beginning in the base of the aorta, extending across the sinus pocket and onto the aortic surface of the aortic cusps, there was a continuous line of a variable degree of fibrosis, hyalinization, decrease in cellularity, and calcium deposition. The same alterations were noted to begin again in the intervalvular septum, and to be continued and exaggerated on the ventricularis of the mitral leaflets. There was a remarkable constancy in the involvement of the fibrosa and adjacent fibro-elastic covering of the leaflets, and in the sparing of the spongiosa and outflow surfaces of mitral and aortic leaflets.

The progressive development of the atherosclerotic valvular lesion can be depicted by the recognition of the following stages:

1. *Mild atherosclerosis* of aortic and mitral valves. This may be referred to as atherosis. Lipoid deposition and slight hyalinization without appreciable thickening or rigidity characterized this stage of development. The appearance was that of focal, discrete deposits of yellow lipoid on the aspects of the leaflets mentioned above. No clinical manifestations could be attributed to this stage.

2. *Sclerosis* of the mitral and aortic valves occurred as a result of the leaflets being rendered rigid and thickened, and this was usually associated with calcium deposition Mild commissural fusion or bridging were noted at the aortic valve in many of these cases. In some of the cases of sclerosis of mitral or aortic valve, a systolic, usually apical, murmur had been heard during life and was not explainable on any other basis.

3. *Calcification of the annulus fibrosus of the mitral valve.* In 5 of the 52 cases under discussion this lesion was noted, usually forming a more or less complete ring around the mitral orifice. The calcific ring was often somewhat defective above the anterior leaflet. In 2 cases, the base of the anterior leaflet was also calcified, and these 2 patients had complete heart block during life[8].

4. *Calcific stenosis.* This lesion was encountered once in the 52 cases of arteriosclerotic valve disease. There was marked commissural fusion, thickening and calcification of the cusps (figure 1). An immobile narrow orifice, which was the cause of both stenosis and insufficiency, remained. In 1 case the mitral orifice was slightly stenosed and insufficient because of rigidity and immobility of both mitral leaflets through fibrosis and calcification.

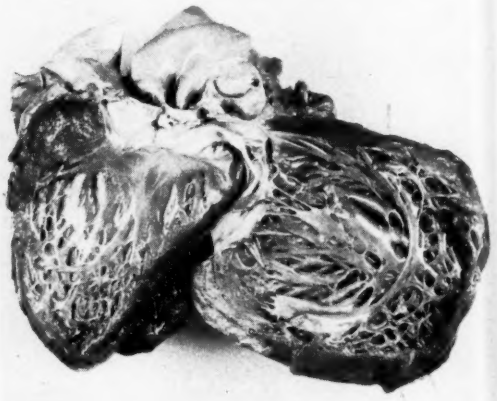

FIG. 1. Photograph of a heart with marked calcific aortic stenosis due to atherosclerosis (Mönckeberg's sclerosis). Note the hypertrophied and dilated left ventricle.

Table 2 gives the incidence of the various atherosclerotic valvular lesions in 100 hearts reexamined grossly.

TABLE 2.—*Incidence of Atherosclerotic Valvular Lesions in 100 Hearts Reexamined Grossly.*

Aortic stenosis with mitral sclerosis	1
Aortic sclerosis with mitral sclerosis	3
Aortic sclerosis with mitral atherosis	6
Aortic atherosis with no mitral lesion	1
Mitral sclerosis with aortic atherosis	4
Mitral atherosis with aortic atherosis	33
Mitral atherosis with no aortic lesion	4
Total	52
Calcification of mitral annulus	5

SYPHILITIC AORTIC VALVULITIS

In this lesion the changes are strikingly uniform, differing from case to case only in degree. In a survey of 500 hearts syphilitic involvement of the aortic valves was found in 19 cases or 3.8 per cent. In the 100 hearts which were reexamined, syphilitic valvular

involvement was noted in 14 cases. In many of these the involvement was early, and there were no accompanying clinical findings.

It is of interest to note the incidence of syphilitic aortic valvular disease as compared to the incidence of syphilis. Several years ago Dr. G. T. Caldwell[1] determined the incidence of syphilis in white and Negro patients at Parkland Hospital, according to serologic tests. The incidence of syphilis in both groups was 13 per cent; for the Negro group, 31.4 per cent, and for the white, 7.3 per cent. Since there has probably been no great change in the incidence of syphilis in recent years, it might be surmised from these figures that approximately 31 per cent of syphilitic patients have some degree of aortic valve involvement. A considerably smaller number, however, have clinical aortic insufficiency.

It was noted that in no instance of syphilitic valvular disease was the base of the aorta free from syphilis. In numerous instances, on the other hand, more distal portions of the aorta were involved by syphilis without aortic valve involvement being present. Furthermore, every case of syphilitic aortic valvulitis was characterized by the presence of a nodular, hyaline, aortic plaque above one or more commissures. These plaques were found on microscopic study to be the seat of marked hyaline fibrous thickening, scanty lipoid deposition, sometimes calcification, and to contain foci of perivascular lymphoid cell infiltrates. The valvular lesion was in some cases limited to these alterations, and only the subsequent changes justify the reference to them as the earliest phase of syphilitic aortic valvulitis.

What appeared to be the next stage of progression, still unattended by clinical findings, consisted of thickening, rolling, fibrosis, and hyalinization of the lateral edges of two adjacent cusps. This involvement often proceeded simultaneously at two or three commissures, but it was sometimes limited to one. The L-R commissure seemed most often involved, while the P-L commissure was least often affected. In 1 heart with otherwise typical syphilitic aortic valvulitis, there was definite fusion of the L-R commissure for a distance of 2 mm. Usually the thickening of the lateral edges extended only for about 3 or 4 mm. along the cusp in this particular stage. The remainder of the free margins of the cusps was normally thin.

In other cases where the lesion was somewhat more advanced there was widening of the commissures, but this never exceeded 2 mm. Saphir and Scott[9] have carefully studied this stage and have shown the mechanism of commissural widening to be fusion of the lateral edges of the cusps with the adjacent aorta. This stage of widening of the commissures with thin free margins and otherwise intact cusps was occasionally associated with the clinical picture of aortic insufficiency.

In the most advanced stage of syphilitic aortic valvulitis the above-mentioned alterations had become more extensive, and to them were added marked rolling and thickening of the free edges, rigidity, fibrosis, thickening, and retraction of the cusps (figure 2). When the valvular lesions had advanced to

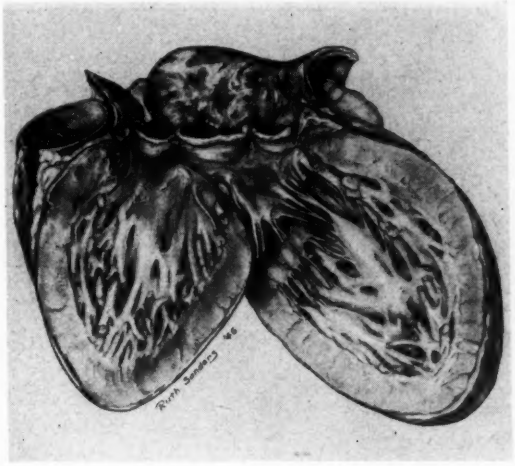

FIG. 2. Drawing of a heart with marked syphilitic aortic valvulitis with aortic insufficiency. There are marked separation at the P-L commissure, syphilitic plaques at the P-L and R-P commissures, and marked rolling of free margins of cusps.

this stage, the clinical picture of aortic insufficiency was always present. In 1 case of marked syphilitic aortic valvulitis in the present series, a subacute bacterial endocarditis was superimposed.

From histologic study, the inflammatory lesion could be traced inward to the commissures from the syphilitic aortitis. At the base of the normal aorta, just at the commissural sites, the intima is continued outward onto the valve surfaces, forming the fibro-elastic covering. The media terminates bluntly and the aortic adventitia forms a fibrous mass which extends inward, under the aortic media. This fibrous extension forms the site of attachment of the lateral edges of the cusps, and at the bases of the cusps it forms the supravalvular annulus of the aortic valve. Thus, the commissural plaques, so characteristic of syphilitic involvement of the aortic valve, are in essence the aortic inflammation which has followed the course of the vasa vasora in the adventitia, into the fibrous extention which forms the site of attachment of the aortic valve, the annulus. The inflam-

mation extends out into the lateral edges of the cusps, and sometimes into the base of the cusp for a distance of 2 or 3 mm. The thickening of the remainder of the cusp and the rolling of the free margin is not inflammatory, however, and has been explained as a "tension change"[9].

RHEUMATIC VALVE LESIONS

The identification of rheumatic valvular lesions, when all the typical evidence of active inflammation has disappeared, is not usually a difficult matter. Polyvalvular involvement, evidence of healed or healing verrucae on the involved leaflets, the pathognomonic mitral stenosis, and shortening and thickening of the chordae tendineae are characteristics of rheumatic valvular disease too well known to be emphasized here.

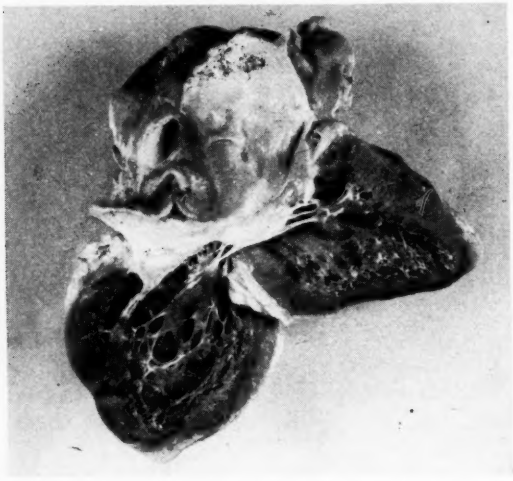

FIG. 3. Photograph of a heart with chronic rheumatic mitral valvulitis. The leaflets are thickened diffusely and the chordae tendineae are somewhat shortened and thickened.

It is of considerable interest to note that rheumatic fever was the cause of heart disease in 15 out of 500 cases coming to autopsy at Parkland Hospital. These constituted 9.0 per cent of a total of 166 cases of organic cardiac disease of all types including hypertensive. Dr. Gladys Fashena[4] has emphasized the relatively great frequency of rheumatic disease as a cause of morbidity and mortality in children in Texas, and the figures presented here corroborate this idea as far as adults in the same area are concerned.

Rheumatic mitral (figure 3) and aortic lesions may at times need to be distinguished from atherosclerotic involvement of the corresponding valves. This distinction may be accomplished by noting that in rheumatic fever the leaflets are diffusely thickened, gray, vascularized, calcified slightly or not at all, may have evident healed verrucae, and are associated with shortened and thickened chordae tendineae. These features are opposed to the findings which are characteristic of atherosclerotic involvement, as given above.

SUMMARY

The characteristics of syphilitic, rheumatic, and atherosclerotic valvular disease of the heart are reviewed on the basis of the findings in 500 autopsy cases. Atherosclerotic valve lesions of mild degree, atherosis, are extremely common. Sclerosis with calcification of the aortic and mitral valves occurs with considerable frequency, while calcification of the mitral valve annulus may develop and lead to heart block. Calcific stenosis of aortic and mitral valves occurs less often, but constitutes mechanisms of organic heart disease with cardiac failure.

Some of the features of early syphilitic aortic valvular disease are emphasized, illustrating the extension of the inflammatory process from the base of the aorta into the commissures, leading to progressive changes resulting in aortic insufficiency.

Rheumatic fever was found to be a significant cause of chronic valvular disease in this community. Some of the features which characterize chronic rheumatic valvulitis are emphasized.

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ABSTRACT OF DISCUSSION

Dr. N. D. Schofield, Galveston: Discussing Dr. Ashworth's paper is much like commenting on the conduct of Caesar's wife—in both cases anything that might be said has a suspiciously "so what?" aura about it. However, if one may request that the lily be gilded, I would be interested in the age distribution of his 500 hearts. It is news to none of us that vascular disease in children is usually rheumatic in etiology, that syphilitic aortitis is characteristically seen in middle aged men, and arteriosclerotic valvular dyscrasias are most frequent in that period of life when Dr. Boyd tells us "the metabolic fires are burning low." But things are not as simple as that. The terminal phase of rheumatic endocarditis falls very close to the time the syphilitic aortitis becomes disquieting to its victims, an

intimal atheromatosis so frequent it is almost physiologic. Consequently, Dr. Ashworth's differentiation of these processes is of great interest to me.

The distribution of the valvular lesions in his 500 cases shows 78 per cent for the aortic as compared with 43 per cent for the mitral. This I am sure would be surprising to not a few internists.

Especially commendable is the systematic manner in which Dr. Ashworth describes his gross valvular lesions: (1) the commissures with their fusion in inflammatory lesions and separation in syphilis; (2) leaflet changes such as the sclerosis with shrinkage in inflammatory lesions, sclerosis without shrinkage in arteriosclerotic degenerations, and finally rolling of the free edge in syphilis; (3) the valve ring which in the aorta undergoes a disastrous ectasia and insufficiency and in the mitral calcification; and (4) the chorda tendineae whose telltale unequal shortening affords much better pathognosis of rheumatic carditis than Ashoff nodule.

The question of the effect of calcification of the mitral ring merits more investigation than it receives. In my experience, heart block has not accompanied calcification of the mitral ring in the absence of severe scarring of the membranous or muscular septum.

Then there is the question of "protection." Hearts with calcified mitral rings seldom have markedly hypertrophied left ventricles, and acute dilatation of the ventricle is not seen. My students repeatedly call this to my attention, and the noticeably vague, broadly generalized answers I can give them are mutually unsatisfactory.

The functional import of calcification of the aortic valve is also interesting. Last year there was a resident (Dr. S. F.) in Galveston who took pictures of calcified aortic valves. Some of the cases had an audible systolic murmur and a questionable palpable thrill, but a normal blood pressure and no left ventricular hypertrophy. At autopsy the aorta showed calcification of its base, the valve, and partial fusion of the cusps as described by Dr. Ashworth. Here, fortunately, I could refer the students to the cardiologists, but I still wondered myself. Functionally, at least, this is not an aortic stenosis.

Dr. Ashworth's series of hearts shows 14 per cent with demonstrable stigmata of syphilis, many of which had no clinical history. This was also the case at the Presbyterian Medical Center in New York. Forty-nine per cent of the 91 patients with syphilitic aortis treated here had no signs or symptoms and were picked up in a routine check-up. Surprisingly, 3 per cent of the far advanced syphilitic cardiac patients had negative serologies! It has been our experience, too, that syphilis produces signs of heart disease only in its terminal stage. More than one longshoreman or shipyard laborer accidently killed, at autopsy showed far advanced syphilitic aortitis and valvulitis.

I was very glad to find Dr. Ashworth reporting syphilitic aortitis without valvulitis. I am repeatedly being considered rather eccentric by the younger internists for describing this condition. Also, many of the same group are amazed to find a syphilitic valvulitis independent of aneurysm formation. In my experience, aneurysm is not even usually associated with syphilitic aortic valvulitis.

In regard to Dr. Ashworth's observaton, "Every case of syphilitic valvulitis was characterized by the presence of a nodular, hyalin, aortic plaque above one or more of the commissures," I may say that I have had 2 cases of syphilitic heart disease with the classical triad of aortic ectasia, commissural separation, and rolling of the free valve margin. One was in a Negro child 8 years of age who had syphilis tarda, and the second came to me via the Herxheimer reaction from penicillin therapy route from an unfortunate young (30 year old) Mexican man whose primary lesion antedated his death by less than four years. These hearts show a pearly intimal edema and wrinkling, a marked narrowing of the coronary ostia, but no old lesions are demonstrable.

Dr. Ashworth should be thanked for his lucid exposition of the relationship of the aortic valves and the aorta. Here it is seen why the aortic ectasia with its resultant dicrotic pulse associated with febrile states is not accompanied by an aortic insufficiency. It is also seen why commissural separation occurs in syphilitic involvement of the aortic root.

In Texas the initial stages of rheumatic carditis apparently are not accompanied by the marked systemic symptoms seen in the colder climates. Here, as in Minneapolis or Detroit, eventually the mitral and aortic valves are sclerosed and the chorda tendeneae deformed and unevenly shortened. However, Dr. Ashworth has shown that the calcification so common in the older rheumatic lesions in the North is not present here.

Dr. Charles Phillips, Temple: The pathologist who does many autopsies is bound to be interested in this paper, for increasingly the degenerative effects of cardiovascular disease are being seen and the victims are not always old people. In my own service I see almost no Negroes and the rate of proved syphilis is low. I find considerable difficulty in exactly distinguishing small and poorly defined lesions of endocarditis and rheumatic carditis and see lesions in aortas and about valves which are puzzling in relationship to clinical histories. This causes me to wonder if clinicians in general pay as much attention as they should to the high incidence of atherosclerosis in adults. The lesions about valves are not always simple degenerative processes, a fact which should be recognized in clinical treatment.

TALC GRANULOMA

STUART A. WALLACE, M. D.
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During the last several years a few important contributions have been made to medical literature regarding the injurious effects of talcum powder, which is now and has been the common dusting powder for surgical gloves. Talcum powder has largely superseded lycopodium in this respect. Lycopodium, still used in some hospitals, especially in Europe, is derived from moss. It has been shown to produce chronic inflammatory reactions on serous and mucous surfaces. The talcum powder in general use is slightly impure hydrous magnesium silicate, the impurities being serpentine and calcium magnesium silicate. It has been shown to produce similar chronic inflammation. The lesions found in experimental animals and in human beings when talc gains entrance to the peritoneal cavity, are granulomatous in appearance, with giant cells, fibrous connective tissue, and lymphocytes. The most important recent contributions to the subject have been made by Owen,[2]

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Read before the Section on Clinical Pathology, State Medical Association of Texas, Annual Session, Galveston, May 7, 1946.

Seelig,[3, 4] Seelig, Varda, and Kidd,[5] and German.[1]

CASE REPORT

A 56 year old man was first admitted to the Southern Pacific Hospital with typical signs and symptoms of acute appendicitis. At operation, the appendix and cecum were found bound down by adhesions and could not be mobilized. The tip of the appendix had sloughed off. A ligature was placed around the intact stump of the appendix and a cigaret drain left in place. Secondary closure was done twenty-six days later and the patient returned to duty. The second admission occurred four months later when the patient had severe abdominal pain. At this time, the operative note read: "Examination of the right iliac fossa revealed that an old abscess had ruptured and traversed along the right lateral gutter into the upper abdomen. A cigaret drain was inserted through the stab wound in the right flank. Closure was made with interrupted silk and heavy dermal." The third admission occurred six years later upon recurrence of severe pain and tenderness in the right lower quadrant, not relieved by a self administered enema. The patient had had no constipation, nausea, or vomiting. There was tenderness in the right lower quadrant. His urine contained occasional red blood corpuscles and white blood cells. Blood examination revealed 14.8 Gm. hemoglobin per 100 cc. of blood, 4,520,000 erythrocytes, 11,150 white blood cells, 70 segmented forms, 2 band forms, 24 lymphocytes, 3 monocytes, and 1 eosinophile. The serologic tests for syphilis were negative. A laparotomy was performed and the appendix stump removed. The patient made an uneventful recovery. Upon examination of the appendix, which measured 3 cm. in length, it was found to have a slit-like lumen and slightly thickened walls, with a somewhat irregular outer surface.

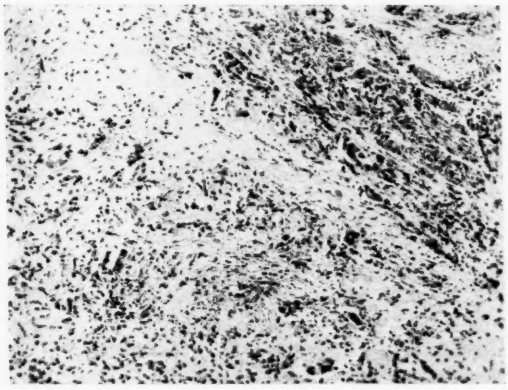


FIG. 1. Low power magnification of granuloma in wall of appendix.

The microscopic examination was quite enlightening. The main findings were granulomatous lesions on and near the outer surface, mainly in one region, not involving the entire circumference. The lesions consisted of cellular granulation tissue with several giant cells of the foreign body type. Definitely seen in several giant cells, but not in all, was a foreign substance which did not take the hematoxylin and eosin stain. This in some places appeared like slender strands and in others as irregular crystals. Familiarity with the work of Seelig suggested further examination, using polarized light, at which time the appearance was identical with that described by Seelig. The case was therefore diagnosed as chronic appendicitis and periappendicitis, granulomatous, due to talc.

DISCUSSION

The prolonged, but slowly developing, inflammatory change produced by silica in various forms has been known for some time. The severe changes which may occur in the lungs because of inhalation of dust with a high content of silica when in a finely divided state are familiar. The pneumokoniosis thus produced is a nodular or diffuse fibrosis with little evidence of granuloma formation. The absence of granuloma is probably due to the small size of the particles (less than 10 microns) which manage to pass the natural barriers and gain entrance to the lungs. Particles larger than this tend to settle out of the air. In silicosis of the lungs and peribronchial lymph nodes, it is believed that silica in the form of silicon dioxide is slowly soluble and acts as a chemical irritant, rather than as a foreign body. To counteract this, aluminum dust has been artificially added to the dust occurring in industry. Aluminum has been used in patients to counteract the ill effects in those already showing silicosis. It is questionable if aluminum added to talc would counteract the injurious effects. In the study of the inflammation produced by talcum powder, one has two factors to consider: (1) the chemical action as in silicosis of the lung and the lymph nodes and (2) the foreign body reaction caused by the greater size of the particles. This large size probably accounts for the large numbers of giant cells present.

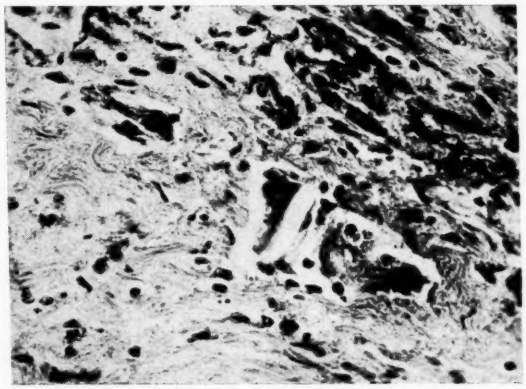


FIG. 2. High power magnification showing giant cell containing talc particles.

Following the experimental work of Owen,[2] one must consider that talc is potentially dangerous when admitted to the peritoneal cavity because of the adhesions produced and the possibility of intestinal obstruction. Since, however, the severest

change is not of alarming frequency, one must suppose that the marked changes occur only when finger tips of gloves are torn, allowing the powder there to escape or when sponges infiltrated with talcum are inadvertently used. Since only the occasional patient suffers, no great attention has been paid to the condition until recently when rather wide publicity has been attained through the endeavors of Seelig. To these few sufferers, it is a major disability. While it is not supposed that all postoperative adhesions are due to talc, a few, no doubt, are; and if even a few of these cases with postoperative adhesions could be prevented by the abandonment of talc, its abandonment would be justified. The use of cream of tartar has been advocated by Seelig, Varda,

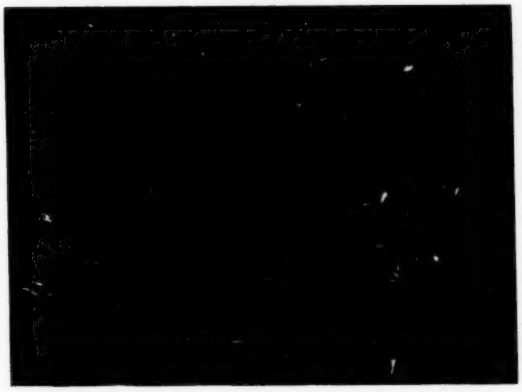


FIG. 3. Talc particles as seen when polarized light is used; tissue cells are not visible.

and Kidd,[5] until such a time as a new preparation from corn starch is available. This new preparation from corn has been produced in small amounts but is not yet available commercially. Cream of tartar quickly disappears from the serous surfaces, but its use causes gloves to deteriorate more rapidly under long sterilization.

SUMMARY

1. A case of talc granuloma of the appendix following two previous abdominal operations is presented.

2. The injurious effects of silica are discussed.

REFERENCES

1. German, W. M.: Dusting Powder Granulomas Following Surgery, Surg., Gynec. & Obst. 76:501-507 (April) 1943.
2. Owen, M.: Peritoneal Response to Glove Powder, Texas State J. Med. 32:482-485 (Nov.) 1936.
3. Seelig, M. G.: Abdominal Silicosis (Due to Talcum Powder) and Cancer, Surg. Clin. North America 24:1162-1171 (Oct.) 1944.
4. Seelig, M. G.: Talcum as an Operating Room Hazard, South. M. J. 38:470-472 (July) 1945.
5. Seelig, M. G.; Varda, D. J.; and Kidd, F. H.: Talcum Powder Problem in Surgery and its Solution, J. A. M. A. 123: 950-954 (Dec. 11) 1943.

ABSTRACT OF DISCUSSION

Dr. May Owen, Fort Worth: Probably one of the greatest satisfactions a pathologist can have is to report a benign lesion and offer suggestions for prevention. Dr. Wallace has given the etiology, described the lesions produced, offered means of identification, and suggested preventive measures.

My own experience is in agreement with the observations of Dr. Wallace. In 1936 I presented a case of studies[2] made using 120 rabbits, 88 of which were subjected to autopsy. Both gross and histologic examinations were made. In making this study the rabbits' intestines were handled and a small quantity of glove powder (talcum) was dusted in the abdominal cavity. The rabbits were examined at approximately thirty day intervals for a period of 320 days after operation. In the early lesions there was edema and hyperemia, which subsided to a great extent in sixty days. This was probably the initial reaction to a foreign body. There was no appreciable decrease in the size of the lesions during the 320 days but there was a decrease in vascularity, the lesions becoming gray and shiny.

During the past ten years I have studied a number of talcum granulomas in surgical tissues, and only an occasional patient had physical symptoms that could be explained by the lesion. Purified talcum or magnesium silicate has been passed through fine sieves having from 100 to 40,000 meshes per square inch, and it is insoluble in water, dilute acids, alkalies, or tissue fluids; so, as with all nonusable material, the body's only method of disposal is to wall it off by phagocytosis and fibrosis. Dr. Wallace's suggestion is that the lesions which produced symptoms are probably secondary to tearing the tip of a glove finger that contained an excess of powder. This is a likely explanation and all doing surgery, including the specialists, are challenged to take the necessary precautions to prevent talcum granulomas.

Dr. John J. Andujar, Fort Worth: An expensive polariscope is not necessary for the demonstration of the crystalline fragments in the granulomata. Almost any ordinary clinical microscope can be converted into a satisfactory polarizing instrument simply by purchasing two small j-filters of polaroid and placing one on top of the ocular and the other beneath the specimen. With this simple and inexpensive device I have demonstrated a very extensive talc granulomatosis with multiple intestinal adhesions producing partial obstruction. It is to be hoped that the awaited nongelatinizing starch will soon be on the market for use on surgical gloves. Dr. Wallace is to be congratulated upon his excellent presentation of this timely subject.

Dr. J. L. Goforth, Dallas: I would like to ask the essayist if he has any impressions relating to the degree of tissue reaction in these granulomatous lesions. Is it entirely a matter of quantity of talc, or does the patient's fibroplastic diathesis enter the picture? And what about sensitivity?

Dr. Wallace, closing: I appreciate very much the discussions of Drs. Owen, Andujar, and Goforth. In reply to Dr. Goforth's question, I suspect that the most important factor which determines the extent of the reaction is the quantity of talc, although it is known that the amount of connective tissue produced in response to injury varies considerably in different persons.

In tuberculosis, rehabilitation is a form of treatment. Obviously, during the period of diagnosis and early hospitalization, medical care is paramount; but, at some point during the period of hospitalization, vocational guidance and training constitute a large portion of treatment and are continued into the immediate post-sanatorium period.—Herman E. Hilleboe, M. D. and Norvin C. Kiefer, M. D., Pub. Health Rep., March 1, 1946.

MEDICAL OFFICERS RETURNING TO TEXAS*

NAME	Serv.†	Location	Release Date
Bell County			
22. Brindley, G. V., Jr.	A	Temple	July, 1946
Bexar County			
170. Cooper, Fred	A	San Antonio	
171. Kupper, Roland C.	A	San Antonio	
172. Martin, Frank M.	A	San Antonio	
173. Scott, Raymond E.	A	San Antonio	
Dallas County			
256. Brelsford, Homer G.	A	Dallas	
257. Burk, Houston M.	A	Dallas	
258. Byrd, Houston F.	A	Dallas	
259. Dill, Emory D., Jr.	A	Dallas	
260. Howard, John P.	A	Dallas	
261. James, George T.	A	Dallas	
262. McCrory, Thomas M.	A	Dallas[1]	
Eastland-Callahan Counties			
9. Addy, Ervin E., Jr.	A	Cisco[2]	Jan., 1947
10. Cole, C. T.	A	Gorman[3]	Dec., 1946
Grayson County			
19. Ellis, John W.	A	Sherman	Feb., 1947
Gregg County			
18. Garvey, A. B.	A	Greggton[1]	
Hardin-Tyler Counties			
6. Gauntt, William C.	A	Kountz[2]	
Harris County			
296. Connolly, Frank E.	A	Houston	
297. Cunningham, George N.	A	Houston	
298. Kerr, Denton	A	Houston	
299. Martin, Clarence R.	A	Houston	
Hidalgo-Starr Counties			
16. Burgess, George	A	McAllen	Mar., 1946
17. Schutz, Joe D	A	McAllen	
Hill County			
6. Smotherman, E. R.	N	Itasca[3]	
Johnson County			
7. Kimbro, Robert W.	A	Cleburne	Mar., 1946
Kimble-Mason-Menard-McCulloch Counties			
8. Kern, John C.	A	Junction	
Potter County			
35. Walkes, Ernest E.	A	Amarillo	
Red River County			
2. Marx, Melvin, Jr.	A	Clarksville	
Shelby-San Augustine-Sabine Counties			
9. Coussons, Charles	A	Hemphill	
Tarrant County			
96. Morphis, Oscar L.	A	Fort Worth	
Travis County			
74. Kelton, William W., Jr.	A	Austin	
Wichita County			
29. Bishop, William A., Jr.	A	Wichita Falls	
30. Powers, Stephen A.	A	Wichita Falls	

*EDITOR'S NOTE: This list is the seventeenth of a series in which it is hoped to name all those physicians who have been in the Armed Forces during the war recently passed and have now returned to Texas to resume civilian practice. The information in this list has been assembled from a variety of sources. While an attempt has been made to secure as complete and as accurate data as possible, we are aware that omissions and errors have been made. Not only for publication in the JOURNAL but also for the permanent records in the central office of the State Medical Association, we invite and urge correction of and addition to the material here submitted. Note that physicians from each county area are numbered consecutively following those listed in the March JOURNAL; the last number in each section therefore indicates the total physicians returned to that county area. The complete total for Texas named to date (April 28), including the accompanying list, is 2,100.

†A=Army; N=Navy; U=U. S. Public Health Service.

[1]Formerly of Dalhart.
[2]Formerly of Canton.
[3]Formerly of Odessa.

[1]Formerly of Taylor.
[2]Formerly of Rochester.
[3]Formerly of Hillsboro.

MISCELLANEOUS

COMING MEETINGS AND CLINICS

State Medical Association of Texas, Dallas, May 5-8, 1947. Dr. C. C. Cody, Jr., Houston, President; Dr. Holman Taylor, 1404 W. El Paso St., Fort Worth 3, Secretary.

American Medical Association, Atlantic City, N. J., June 9-13, 1947. Dr. Harrison H. Shoulders, Nashville, Tenn., President; Dr. George F. Lull, 535 North Dearborn St., Chicago 10, Secretary.

Southern Medical Association, November, 1947. Dr. E. L. Henderson, Louisville, Ky., President; C. P. Loranz, Empire Building, Birmingham, Ala., Secretary-Manager.

Southwest Allergy Forum, Oklahoma City, Okla., Spring, 1948. Dr. Herbert J. Rinkel, Kansas City, Mo., President; Dr. Fannie Lou Leney, 1200 N. Walker, Oklahoma City, Okla., Secretary.

Texas Association of Medical Anesthetists, Dallas, May 5, 1947. Dr. Claudia Potter, Temple, President; Dr. Russell Bonham, Box 6237, Houston, Secretary.

Texas Association of Obstetricians and Gynecologists, Fort Worth, November, 1947. Dr. J. E. Kanatser, Wichita Falls, President; Dr. Julius McIver, 714 Medical Arts Building, Dallas, Secretary.

Texas Chapter, American College of Chest Physicians, May 5, 1947. Dr. R. G. McCorkle, San Antonio, President; Dr. Elliott Mendenhall, 1217 Medical Arts Bldg., Dallas, Secretary.

Texas Club of Internists. Dr. N. D. Buie, Marlin, President; Dr. Victor E. Schulze, San Angelo, Secretary.

Texas Hospital Association. Mr. Thomas H. Head, San Angelo, President; Mrs. Ruth Barnhart, 2210 Main St., Dallas, Secretary.

Texas Neuropsychiatric Association, Dallas, May 5, 1947. Dr. Fred T. Rogers, Dallas, President; Dr. David Wade, 604 Capital National Bank Bldg., Austin, Secretary.

Texas Orthopedic Society. Dr. E. A. Cayo, San Antonio, President; Dr. Edward Smith, 1215 Walker Ave., Houston, Secretary.

Texas Pediatric Society, Houston, October, 1947. Dr. J. R. Lemmon, Amarillo, President; Dr. John E. Ashby, 3610 Fairmount, Dallas, Secretary.

Texas Public Health Association, Houston, February, 1948. Dr. S. W. Bohls, San Antonio, President; Mr. Earle W. Sudderth, Dallas County Health Department, Court House, Dallas, Secretary.

Texas Radiological Society. Dr. C. A. Stevenson, Temple, President; Dr. R. P. O'Bannon, 650 Fifth Ave., Fort Worth, Secretary.

Texas Railway and Traumatic Surgical Association, May 5, 1947, Dr. F. L. Snyder, Fort Worth, President; Dr. Ross Trigg, First National Bank Bldg., Fort Worth, Secretary.

Texas Society for Mental Hygiene, El Paso, Spring, 1948. Dr. Ozro T. Woods, Dallas, President; Mrs. Elizabeth F. Gardner, 1617 Watchhill Road, Austin 21, Executive Secretary.

Texas Society of Gastro-Enterologists and Proctologists, Dallas, May 5, 1947. Dr. Tom E. Smith, Dallas, President; Dr. D. L. Curb, 704 Dallas Ave., Houston, Secretary.

Texas Society of Ophthalmology and Otolaryngology, Houston, December, 1947. Dr. W. E. Vandevere, El Paso, President; Dr. E. D. Dumas, 425 Medical Arts Bldg., San Antonio, Secretary.

Texas Society of Pathologists, Business Session, Dallas, May 7, 1947; Annual Session, Galveston, January 25, 1948. Dr. D. A. Todd, San Antonio, President; Dr. C. T. Ashworth, Southwestern Medical College, Dallas, Secretary.

Texas State Heart Association, Dallas, May 5, 1947. Dr. Robert M. Barton, Dallas, President; Dr. M. B. Whitten, Medical Arts Bldg., Dallas, Secretary.

Texas State Urological Society, Dallas, November or December, 1947. Dr. Jo C. Alexander, Dallas, President; Dr. Hub Isaacks, Medical Arts Bldg., Fort Worth, Secretary.

Texas Surgical Society, Galveston, October 7-8, 1947. Dr. Walter Stuck, San Antonio, President; Dr. Truman G. Blocker, University of Texas Medical Branch, Galveston, Secretary.

Texas Tuberculosis Association, Dallas, September 15-16, 1947. F. K. Dougharty, Liberty, President; Miss Pansy Nichols, 700 Brazos, Austin, Executive Secretary.

Third, Panhandle, District Medical Society. Dr. C. E. High, Pampa, President; Dr. Kenneth Flamm, Amarillo, Secretary.

Fourth District Medical Society, Coleman, 1947. Dr. Glenn H. Ricks, Brady, President; Dr. J. C. Young, Coleman, Secretary.

Seventh, Austin, District Society, June, 1947. Dr. Robert B. Morrison, Austin, President; Dr. M. I. Brown, Capital National Bank Bldg., Austin, Secretary.

Eighth, Ninth and Tenth Districts Medical Society. Dr. Walter F. Hasskarl, Brenham, President; Dr. George W. Waldron, Medical Arts Bldg., Houston, Secretary.

Eleventh District Society, October, 1947. Dr. L. L. Travis, Jacksonville, President; Dr. C. B. Young, 929 S. Confederate, Tyler, Secretary.

Twelfth, Central Texas, District Society, Marlin, July 8, 1947. Dr. W. Howard Wells, Waco, President; Dr. H. F. Connally, Jr., Amicable Bldg., Waco, Secretary.

Thirteenth, Northwest District Society, Mineral Wells, September, 1947. Dr. Frank Hodges, Abilene, President; Dr. A. D. Roberts, Medical Arts Bldg., Fort Worth, Secretary.

Fourteenth District Society, Sherman, June 24, 1947. Dr. H. Frank Carman, Dallas, President; Dr. James Jeter, Ennis, Secretary.

Fifteenth, Northeast Texas, District Society, Gilmer, Fall, 1947. Dr. Joe Roberts, Longview, President; Dr. S. W. Tenney, Marshall, Secretary.

HOSPITALS NEEDING INTERNS AND RESIDENTS

Methodist Hospital, Dallas. Capacity 206 beds. C. B. Fielder, Superintendent (interns desired, July, 1947).

El Paso City County Hospital, El Paso. Capacity 192 beds. George W. Cook, Col., U. S. A., Ret., Superintendent (3 interns for one year term, graduates of class A medical school only).

All Saints Episcopal Hospital, Fort Worth. Capacity, 110 beds. Approved for graduate residency. Eva M. Wallace, R. N., Superintendent (1 resident immediately; 2 by July 1).

TEXAS SURGICAL SOCIETY

The Texas Surgical Society held its spring meeting in Dallas, April 7-8, with Drs. Edward White (chairman), Curtice Rosser, and Charles Bussey making the local arrangements. The scientific program was as follows:

April 7

Anorectal Surgery with Particular Reference to the Use of Hemostatic Agents—Dr. Ortho B. Griffin, Lisbon.
Pilonidal Cysts and Sinuses—Dr. Robert P. Hays, Lisbon.
Management of Intractable Pain—Dr. Duncan Alexander, McKinney.
Incidence and Predisposing Factors in Mammary Cancer—Dr. Murray Copeland, Memphis, Tenn.
Use of Vitallium Plates to Maintain Function Following Resection of the Mandible—Dr. Bromley S. Freeman, Temple.

(The first five papers were by Veterans Administration staff members and were arranged by Dr. Paul North, Dallas.)

A Few Interesting Plastic Procedures—Dr. James T. Mills, Dallas.
Felty's Syndrome, A Case Report—Dr. C. D. Bussey and (by invitation) Dr. C. N. LaDue, Dallas.
Resection of the Pancreas for Carcinoma—Dr. R. L. Sewell, Fort Worth.
Surgical Aspects of Gastric Ulcer—(by invitation) Dr. Raleigh White, Temple.
Problems in Surgical Management of the Chronically Ill Patient—Dr. Champ Lyons, Tulane University, New Orleans, La.
Treatment of Uremia by Peritoneal Lavage—Dr. Andrew B. Small and (by invitation) Dr. E. E. Muirhead, Dallas.
Some Further Reports on the King Operation for Bilateral Vocal Cord Paralysis—Dr. G. D. Mahon, Dallas.

April 8

Gastro-Intestinal Symptoms and Urinary Diseases—Dr. J. Howard Shane, Dallas.
High Osteotomy in Reconstruction of Hip Lesions—Dr. Joseph H. McGuire, Dallas.
Observations on Methods of Treatment of Fractures of the Shaft of Long Bones—Dr. Francis M. McKeever, University of Southern California, Los Angeles.
Segmental Resection of Pulmonary Tissue—Dr. Robert R. Shaw, Dallas.
Vaginal Hysterectomy—Dr. Allen L. McMurrey, Houston.

Drs. John C. Kennedy and R. Lee Clark, Jr., Houston, and Albert Hartman, San Antonio, were elected to fellowship. The society decided to meet next in Galveston, October 7-8.

CALIFORNIA POSTGRADUATE COURSES

The American Academy of Allergy, in coöperation with the medical faculty of the University of California, will offer an orientation course in clinical allergy for general practitioners at the University of California Hospital, San Francisco, July 7-11. The course has received the approval of the Committee on Education of the academy. Additional information may be secured from Dr. Stacy R. Mettier, Head of Postgraduate Instruction, Medical Extension, University of California Medical Center, San Francisco 22.

Announcement has also been made by the University of California of postgraduate courses in gynecology and obstetric pathology and in smear technique as it pertains to cancer of the uterus, stomach, urinary tract, and lungs, to be given August 4-15; obstetrics and gynecology, September 1-5; otorhinolaryngology, September 8-12; and ophthalmology, September 15-19. Interested physicians should write Dr. Mettier.

AMERICAN BOARD OF OBSTETRICS

General oral and pathology examinations (Part II) will be conducted by the American Board of Obstetrics and Gynecology at Pittsburgh, Pa., June 1-7. Applications are also being received for the 1948 examinations by Dr. Paul Titus, Secretary, 1015 Highland Building, Pittsburgh 6, Pa.

SKEET SHOOT TROPHY FOR DOCTORS

The Texas State Skeet Shoot, to be held at the Dallas Gun Club, June 13-15, will include a contest for Texas physicians. Dr. Arthur G. Schoch, Dallas, has donated a trophy in honor of the late Dr. J. Thomas Hairston, San Antonio, to be awarded the doctor of medicine living in Texas who shoots the highest score in the all bore event, which will consist of 300 targets to be shot as the main event of the state competition.

Physicians interested in contending for the new Hairston Trophy can secure detailed information from Dr. Schoch, Medical Arts Building, Dallas.

SCHERING COMPETITION ANNOUNCED

"The Clinical Use of Androgens in the Female" is the subject for the 1947 competition sponsored by the Schering Corporation, Bloomfield, N. J., for which cash prizes of $500, $300, and $200 will be awarded for the best manuscripts on the subject by medical students in the United States and Canada. Additional information concerning the contest, which closes July 31, may be obtained from Dr. Norman L. Heminway, Medical Service Department.

MORTALITY AND NATALITY DATA

Provisional reports from the U. S. Public Health Service indicate that births in the United States during 1946 exceed the previous high total in 1943 by 11 per cent. The birth rate was 23.3 per 1,000 population—nearly 19 per cent above the rate for 1945 and 8 per cent higher than the wartime peak for 1943. The provisional death rate is estimated at 10.1 per 1,000 population during 1946, excluding the armed forces overseas, as compared with the final rate of 10.6 for 1945. Births in 1946 totaled 3,260,000 and deaths 1,400,000.

AMERICAN COLLEGE OF SURGEONS

Texas was host to a sectional meeting of the American College of Surgeons in Fort Worth, March 20-21 when approximately 700 physicians and hospital personnel from throughout the South and Southwest convened. A special conference conducted by Dr. Malcolm T. MacEachern, Chicago, associate director and chairman of the administrative board of the College, and Dr. George H. Miller, Chicago, director of educational activities of the College, was held for hospital administrators on March 20. The medical profession met both days, seeing new medical motion pictures and hearing the following papers:

March 20

Injuries of the Hand—Dr. Michael L. Mason, Chicago.
Fundamentals of Basal Narcosis in Anesthesiology—Dr. Harvey C. Slocum, Galveston.
Recent Advances in Radical Treatment of Carcinoma of the Larynx—Dr. Alexander Brunschwig, Chicago.
Surgery of the Thyroid in Relation to the Use of Thiouracil and Propyl-Thiouracil—Dr. Carl A. Moyer, Dallas.

Panel Discussion: Intestinal Obstruction—Dr. Albert O. Singleton, Galveston, moderator; Dr. Robert L. Sanders, Memphis; Dr. George R. Enloe, Fort Worth; Dr. George V. Brindley, Temple.
Panel Discussion: Postoperative Care—Dr. Robert M. Moore, Galveston, moderator; Dr. Carl A. Moyer, Dallas; Dr. Edgar J. Poth, Galveston.
Program of American College of Surgeons, Graduate Training in Surgery—Dr. Malcolm T. MacEachern and Dr. George H. Miller, Chicago.
Cancer Detection Centers—Dr. Charles F. Branch, Chicago.

March 21

Use of Antibiotics in Surgical Practice—Dr. Michael L. Mason, Chicago.
Value of Conservative Surgery of Pelvic Organs—Dr. Willard M. Allen, St. Louis.
Anticoagulant Drugs in Prevention of Pulmonary Embolism—Dr. Robert M. Moore, Galveston.
Surgical Measures Available in Preventing Pulmonary Embolism—Dr. Edgar J. Poth, Galveston.
Panel Discussion: Fractures—Dr. G. W. N. Eggers, Galveston, moderator; Dr. Fred C. Reynolds, St. Louis; Dr. Harold B. Boyd, Memphis.
Panel Discussion: Carcinoma of the Colon—Dr. Alexander Brunschwig, Chicago, moderator; Dr. George Waldron, Houston; Dr. James W. Nixon, San Antonio; Dr. T. H. Thomason, Fort Worth.

Other sectional meetings were held during March and April in Baltimore, Omaha, Providence, San Francisco, Vancouver, and Winnipeg.

PHYSICAL EXAM FOR EMPLOYEE PLACEMENT

The physical examination in industry, when correctly used, is an effective tool for the proper placement of employees, Dr. F. E. Poole, Glendale, Calif., writes in the January 11 issue of *The Journal of the American Medical Association.* Generally, Dr. Poole says, "it is sufficient to determine that the worker has normal vision, hearing and use of the extremities and is free from communicable disease, serious disease of the heart or the lungs, hernia, deformity or any other condition which would be aggravated by employment."

Workmen's compensation laws and the responsibility of employers for the care of occupational injuries have been instrumental in introducing physical examinations in industry. "Physical standards were placed so high in many instances, however, that workers physically substandard in some detail, yet perfectly capable of satisfactory employment in many occupations, were eliminated from the work force," Dr. Poole states. He suggests that health information transmitted to a personnel office should be for the one purpose of classifying the employee's ability to work, and might be based on a classification system as follows: (1) acceptable for any type of work; (2) limited, with specific types of work prohibited; (3) severely handicapped; (4) temporarily unable to work; (5) unfit for work.

OPENINGS FOR PHYSICIANS

The Bureau of Information of the American Medical Association, with the cooperation of state and county medical societies, maintains a list of openings in general practice, specialties, and associate positions for the use of physicians returning from military service and others who may be interested. The Bureau may be addressed at 535 North Dearborn Street, Chicago 10.

BONE MARROW TUMORS ARRESTED

Stilbamidine and pentamidine, two new English drugs, have been effective in checking multiple myeloma at a New York hospital, Dr. Isidore Snapper, writing in the January 18 issue of *The Journal of the American Medical Association,* reports. Fifteen patients suffering excruciating pain from the disease were considerably relieved after treatment with the drugs, and 11 could walk at the time of discharge from the hospital (13 had been immobilized in bed). Injections of stilbamidine were successful in most cases, but 2 patients who were not helped by stilbamidine were effectively treated with pentamidine. The treatment merely checks the disease and does not cure it, Dr. Snapper points out.

GYNECOLOGY LOAN FUND

The Woman's Auxiliary to the Southern Medical Association has established a loan fund for young southern physicians wishing to do postgraduate study in gynecology. The physician must be no older than 32 years, of good character, and show evidence of being capable of absorbing adequate knowledge. Inquiries may be addressed to Mrs. J. Ullman Reaves, 1862 Government Street, Mobile 18, Ala.

LIBRARY NOTES

PACKAGE SERVICE

The package library consists of collections of reprints and other periodical material on various subjects, prepared for lending to members of the Association. Requests for packages should be addressed "Library, State Medical Association of Texas, 1404 W. El Paso Street, Fort Worth 3, Texas." Twenty-five cents in stamps should be enclosed with the request to cover postage and part of the expense of collecting the material. Packages are allowed to remain in the hands of the borrower for 14 days.

ACCESSIONS

The following additions were made to the Library during April:

Reprints received, 826.
Journals received, 233.
Chicago, Year Book Publishers, Inc.—Spies: Experiences with Folic Acid; Gordon: Nutritional and Vitamin Therapy in General Practice.
Baltimore, Williams and Wilkins—Beck: Obstetrical Practice.
Easton, Pa.—The Pharmacopeia of the United States, 13th revision.
East Brunswick, N. J., The Ethicon Suture Laboratory—The Ethicon Book of Sutures.
Torbett: The Doctor's Scrapbook, privately printed.
San Antonio, The Naylor Company—Brown: Bars from Bilibid Prison.
Philadelphia, W. B. Saunders Company—Spies: Rehabilitation through Better Nutrition.

SUMMARY OF SERVICE

Local users, 51.	Borrowers by mail, 52.
Items consulted, 262.	Packages mailed, 54.
Items taken out, 296.	Items mailed, 544.

Total number of items consulted and mailed, 1,102.

MOTION PICTURE FILM LIBRARY

Motion picture films on medical subjects, 16 mm., both silent and sound, some in color, and suitable for either medical or lay audiences, are available for loan to county medical societies, hospital staffs, or individual physicians, on request. Borrowers will be required to pay only the cost of shipment of the films, by express, with insurance, and for any damage to films while in the hands of the borrower.

Requests for films should be addressed to "Motion Picture Film Library, State Medical Association of Texas, 1404 West El Paso Street, Fort Worth 3, Texas." A list of available films, with descriptions, will be furnished on request.

The following motion picture films were loaned by the Film Library of the State Medical Association of Texas during April:

Accent on Use (Available through the courtesy of the National Foundation for Infantile Paralysis)—Memorial Hospital Staff, Houston.

Anemia, Erythroblastic (Available through the courtesy of Mead Johnson & Company)—Pediatric Conference, Harris Memorial Methodist Hospital, Fort Worth.

Appendicitis in Childhood (Available through the courtesy of Mead Johnson & Company)—Pediatric Conference, Harris Memorial Methodist Hospital, Fort Worth.

As Others See Us (Available through the courtesy of the American Hospital Association)—Medical and Surgical Clinic, Fort Worth.

Bronchial Asthma (Available through the courtesy of E. Fougera & Company)—Dr. J. O. Carr, Fort Worth.

From Moo to You (Available through the courtesy of the Borden Company)—P. T. A. of Rusk Public Schools, Rusk.

Gastrectomy, Safer (Available through the courtesy of Billy Burke Productions)—DeTar Memorial Hospital Staff, Victoria.

Golden Glory (Available through the courtesy of Standard Brands, Inc.)—P. T. A. of Rusk Public Schools, Rusk.

Heart Disease, Oxygen Therapy in (Available through the courtesy of Linde Air Products Company)—Medical and Surgical Clinic, Fort Worth.

Human Fertility (Available through the courtesy of Ortho Products, Inc.)—Dr. W. B. Swift, Fort Worth.

Hypodermic Syringes and Needles: Their Care and Function (Available through the courtesy of Becton, Dickinson & Company)—DeTar Memorial Hospital Staff, Victoria.

Immunization Against Infectious Diseases (Available through the courtesy of Lederle Laboratories, Inc.)—Polytechnic High School Home Nuring Class, Fort Worth, and Lamar College, Beaumont.

Injuries (Athletic), Their Prevention and Care (Available through the courtesy of Becton, Dickinson & Company)—DeTar Memorial Hospital Staff, Victoria.

Magic Bullets (Available through the courtesy of the U. S. Public Health Service)—Dr. W. B. Swift, Fort Worth.

Malaria (Available through purchase)—Lamar College, Beaumont.

New Horizons (Available through the courtesy of National Foundation for Infantile Paralysis)—Medical & Surgical Clinic, Fort Worth, and Terrell State Hospital, Terrell.

Oxygen, Its Administration by Oro-Pharyngeal Catheter (Available through the courtesy of Mead Johnson & Company)—Dr. J. O. Carr, Fort Worth.

Penumonia, Its Diagnosis and Treatment (Available through the courtesy of Lederle Laboratories, Inc.)—Harris College of Nursing, Fort Worth.

Poliomyelitis, Sister Kenny Method of Treatment (Available through the courtesy of Dr. Herbert E. Hipps)—Medical & Surgical Clinic, Fort Worth, and Terrell State Hospital, Terrell.

Resuscitation of the Newborn (Available through the courtesy of Mead Johnson & Company)—Dr. J. O. Carr, Fort Worth.

Serum (Human), The Preparation of (Available through the courtesy of Mead Johnson & Company)—Terrell State Hospital, Terrell.

Splenectomy (Available through the courtesy of Davis & Geck)—Medical & Surgical Clinic, Fort Worth.

Varicose Veins and Their Complications (Available through the courtesy of Becton, Dickinson & Company)—DeTar Memorial Hospital Staff, Victoria.

When Bobby Goes to School (Available through the courtesy of Mead Johnson & Company)—P. T. A. Rusk Public Schools, Rusk.

You Are the Switchman (Available through the courtesy of the American Cancer Society, Inc.)—Medical & Surgical Clinic, Fort Worth.

NEW MOTION PICTURES FOR THE FILM LIBRARY

The Motion Picture Film Library of the State Medical Association has received the following films, which are available for loan upon request:

Animated Hematology. 16 mm., silent, color, showing time, 45 minutes. (Available through the courtesy of The Armour Laboratories, Chicago.) This is the first of a series of films which Armour and Company plan to make on the subject of hematology. This picture is a review of the macrocytic anemias. It presents first the physiology of the hemopoietic principle, and discusses the effect of this principle on blood cell formation. Castle's thory is reviewed and a theme developed which ties in with the clinical examples shown later in detail. Following a ten-minute introductory section, a complete presentation of the clinical examples is given. Demonstration of patients, blood and bone marrow studies from direct photomicrographs in kodachrome are shown, and diagnosis and treatment follow.

Floraquin. 16 mm., silent, showing time, 15 minutes. (Available through the courtesy of Dr. Karl J. Karnaky, Houston.) This picture shows the technique of conization as actually done in the clinic at Jefferson Davis Hospital. Later, for the sake of emphasis and clearness, a cervix removed from a gynecological patient is used for demonstrating techniques.

Trichomonas Vaginalis and Leukorrhea. 16 mm., silent, showing time, 23 minutes. (Available through the courtesy of Dr. Karl J. Karnaky, Houston.) This film shows the technique of diagnosis of trichomonas under the microscope, and the physiology of the normal and of the abnormal vagina. Treatment is shown in detail.

You Are the Switchman. 16 mm., sound, showing time, 13 minutes. (Available through the courtesy of the American Cancer Society, Chicago.) This film stresses the importance of knowing cancer danger signals and of obtaining early diagnosis.

LIBRARY NEEDS

The journals listed are needed by the Library of the State Medical Association to complete volumes for binding. Any of these numbers will be acceptable either as a gift or for purchase. It is preferable that the Library, 1404 West El Paso Street, Fort Worth 3, be notified regarding items available, and the prices of such items, if any, before shipment is made.

Journals needed by the Library of the State Medical Association are as follows:

American Heart Journal, Vol. 23, No. 6 (June) 1942.

American Journal of Clinical Pathology, Vol. 11, Nos. 5-8 (May-Aug.) and 10-12 (Oct.-Dec.) 1941; Vol. 12, Nos. 1-12 (Jan.-Dec.) 1942.

American Journal of Medicine Science, Vol. 202, No. 6 (Dec.) 1941.

Bulletin of Tarrant County Medical Society, Vol. 7, No. 1 (April) 1934.

Journal of Industrial Hygiene, Vol. 17, No. 6 (Nov.) 1935.

Southern Medical Journal, Vol. 31, Nos. 1-3 (Jan.-March) 1938.

Southern Surgeon, Vol. 4, No. 3 (June) 1935.

BOOK REVIEWS

The Doctor's Scrapbook. By J. W. Torbett, Sr., M. D., Marlin, Texas. Cloth, 258 pages. Price, $2.50. Privately printed, 1947.

"The Doctor's Scrapbook" is more than its name implies. It protrays a wholesome philosophy of life. and is inspiring and uplifting in the fullest sense. It is basically autobiographical, and brimming over with the wisdom of a half-century of conscientious service in Texas medicine. Only a man with an inherent

love of his fellowmen, and a "devotion to service, to kindness, and to healing" could have written so realistic a document. It has everything—love, romance, poetry, adventure, humor, and practical health hints, all combined to make it a ready reference book for the family as well as a handbook of entertainment. In Dr. Torbett's own words, "It contains . . . scraps of information I have given my patients, scraps of information they gave me, and 'scraps' I have had with them through fifty years of intensive practice as a 'One-Horse Doctor' without the buggy."

[1]**A Malariologist in Many Lands.** By Marshall A. Barber. With a foreword by Paul F. Russell. Cloth, 158 pages. Price, $2.50. Lawrence, Kansas, University of Kansas Press, 1946.

With most of the current literature about malaria dealing with the new drugs for its cure, it is a pleasure to read the refreshing narrative of Dr. Barber. He writes of his experiences in all parts of the world, spreading information regarding the prevalence and prevention of this disease, with considerable stress on the many types of mosquito vectors. Each chapter is devoted to his work in a different country, and in addition to the malarial work peculiar to that locality, he frequently digresses with interesting comments on the life and habits of the people themselves.

In discussing Malaya, Dr. Barber debunks a great deal of the propaganda spread during the recent war about the Malayan jungle. He states that he rarely saw anything extraordinary; the jungles were simply woods, no more difficult to walk in than a New England forest. Even the boggy and swampy parts, he says, are not much worse than he has found in the stream-side woods of the United States. Another interesting bit of side information, which undoubtedly antedates by many years the work of Margaret Sanger, is that of planned parenthood and child spacing by the native Fijians.

To those not thoroughly familiar with the habits of the many species of mosquitoes capable of transmitting malaria, it is interesting to learn that they may and do propagate in the muddy tracks of cattle, and brackish water of coastal lands, and in some streams of clear running water. Near the town of Siwa, in Egypt, a malarial vector known as Anopheles Multicolor was found in pools of salty water, an analysis of which showed a salt content twice that of sea water. Dr. Barber's description of the invasion of Brazil by the Anopheles Gambiae, and its final control, reads like a current detective novel. However, the deaths resulting in Brazil from this invasion would compare favorably with those produced by an invading army in the recent world war.

So much information is packed into the few pages of this little book, in such a fascinatingly readable manner, that Dr. Barber's hope that his "narrative will promote unlearning as well as learning in this subject" is accomplished enjoyably. To all interested in malarial prevention and eradication, this book can be unhesitatingly recommended.

[2]**Practical Malariology.** Prepared under the Auspices of the Division of Medical Sciences of the National Research Council by Paul F. Russell, M. D., M. P. H., Col., M. C., A. U. S., Parasitology Division, The Army Medical School; Luther S. West, Ph. D., Head of the Biology Department, Northern Michigan College of Education; and Reginald D. Manwell, Sc. D., Professor of Zoology, Syracuse University, New York. Cloth, 684 pages. 238 illustrations, 8 in color. Price, $8.00. Philadelphia, W. B. Saunders Company, 1946.

The Division of Medical Sciences of the National Research Council is credited again with a valuable and urgently needed publication. The manual, "Practical Malariology," results from the rich experience of the authors in malariology, particularly in World War II, during which advances in that field were notable. The treatment of malaria with quinine and atabrine had been put on a more rational basis, but the most outstanding achievements were the use of atabrine to prevent clinical malaria and the development of new synthetic antimalarials—chloroquine and paludrine. The authors stress the international character of the fight against malaria since "the newly made world which the airplane has tied together has lost its frontiers."

Malaria presents a medical and public health problem of first magnitude. About one-tenth of the earth's population is afflicted with this disease and about 1,000,000 cases with 5,000 deaths are recorded annually in the United States. There are some 8,000 cases in Texas annually.

Among the large volume of information on malariology, incorporated primarily in textbooks on tropical medicine, "Practical Malariology" is the richest and most reliable source. The relation of the mosquito vector to malaria control is recognized by the authors in a chapter on the types of breeding places in different parts of the world, illustrated with original photographs. A description of the distribution of the malaria-carrying anopheles species and the field techniques to determine which of these are present in an area precede reports of laboratory dissection and preservation of the mosquitoes and experiments on artificial breeding and infection.

The wide range of clinical syndromes enriched by observations in World War II is comprehensively summarized in a section on "The Man."

The treatment of malaria, being a difficult task for the physician, also provides a complex chapter in the manual. Two modern methods of treatment with cinchona alkaloids (quinine or totaquina) are listed, while emphasis is placed on atabrine, the full value of which has only recently become evident. Plasmochin, which no longer appears to be justified for mass malaria prophylaxis, and the new antimalarials, chloroquine and paludrine, are also discussed.

The chapter on epidemiology concisely analyzes the complexity of factors of which malaria is a function. The most important element is man, who may modify the factors by race, age, occupation, housing, economic state, migrations, aggregations, and environment.

Since malaria is transmitted by an insect highly susceptible to climatic factors, climate has a great influence on the incidence and dispersion of the disease. The main climatological factors are presented, together with the need for improved methods of collecting information about climate.

A chapter deals with malaria surveys based on morbidity and mortality rates, spleen index, parasitic rates, and anopheline factor. The most recent achievements in malaria control, for which local malaria surveys are important, are presented. The use of DDT and of atabrine is emphasized.

The 70 pages of the appendix are devoted to keys for entomological identification of anophelines of the world.

The complete, up-to-date, authoritative manual would benefit a malariologist of any section of the world. The publishers are to be congratulated upon the splendid appearance of the richly illustrated volume.

[3]**Peptic Ulcer, Its Diagnosis and Treatment.** By I. W. Held, M. D., Attending Physician, Beth Israel Hospital, Clinical Professor of Medicine

[1]Reviewed by Moise D. Levy, M. D., Houston.
[2]Reviewed by Ludwik Anigstein, Ph. D., M. D., University of Texas School of Medicine, Galveston.
[3]Reviewed by J. S. Bagwell, M. D., Dallas.

(Retired) New York University of Medicine, New York City, and A. Allen Goldbloom, M. D., F. A. C. P., Assistant Clinical Professor of Medicine, New York Medical College and Flower-Fifth Avenue Hospital. Cloth, 382 pages. Price, $6.50. Springfield, Illinois, Charles C. Thomas, Publisher, 1946.

Divided into two equal parts, the first devoted to simple peptic ulcer and the second to complications of ulcer, this textbook covers reasonably well some aspects of the subject but is inadequate in other phases. Except for 13 pages on medical treatment and 27 pages on surgical management, the greater part of the discussion is devoted to diagnosis. The chapter on medical treatment is far too short and is lacking in critical analysis.

The chapter on perforated peptic ulcer and the "dyspeptic soldier" are perhaps the most informative.

Illustrations are sufficiently numerous but not all are of good quality and there is an undesirable feature in the use of both positive and negative x-ray reproductions.

Issue might well be taken with the concept, repeatedly stated, that anemia due to chronic blood loss may result in hypochlorhydria and thus lead to carcinomatous degeneration of benign ulcer. There is even more serious objection to the statement that "a gastric ulcer becomes surgical only after three or four thorough attempts at medical cure have been made." The discussion of carcinoma of the stomach is disappointing.

The reviewer is left with the impression that the authors have had much experience with peptic ulcer but have not contributed much that is new or outstanding in this publication.

[1]**The Centennial of Surgical Anesthesia.** An Annotated Catalogue of Books and Pamphlets bearing on the Early History of Surgical Anesthesia. Exhibited at the Yale Medical Library, October, 1946. Compiled by John F. Fulton, M. D., and Madeline E. Stanton, A. B. Paper, 102 pages. Price, $4.00. New York, Henry Schumann, 1946.

This little book contains much important data. It is accurate insofar as the reviewer is able to judge. It is a tribute to the field of medicine and surgery, stressing the advent of anesthesia, which catapulted surgery into a maze of progress and development.

[1]Reviewed by R. F. Bonham, M. D., Houston.

NEWS

Contributions to this department will be appreciated. News should be of general medical interest, such as public health activities, new hospitals, personal items of more than local value, etc. News for a particular number of the JOURNAL should be in the hands of the Editor not later than the fifteenth of the preceding month.

National Medical Organizations which have announced details of their meetings for 1947 include the following:

National Gastroenterological Association, Atlantic City, N. J., June 4-6.—Eighteen papers, a luncheon round-table conference, and a banquet, at which the winner of the 1947 prize for gastroenterology will be presented, are scheduled so that physicians expecting to attend the American Medical Assocation annual session in the same city June 9-13 can be present for both meetings. Details may be obtained from the Association, 1819 Broadway, New York 23.

American Congress of Physical Medicine, Minneapolis, September 2-6.—Scientific and clinical sessions, open to members of the medical profession in good standing with the American Medical Association, and instructional courses, open to physicians and to therapists registered with the American Registry of Physical Therapy Technicians, are being planned. Details are available from the Congress, 30 North Michigan Avenue, Chicago 2.

American Congress on Obstetrics and Gynecology, St. Louis, September 8-12.—Dr. William F. Mengert, Dallas, is in charge of the program, designed to appeal to obstetric and gynecology specialists, general practitioners interested in those fields, public health workers, hospital administrators, and nurses. Scientific and technical exhibits, a motion picture program, general and group meetings, and round-table discussions are being planned. One program will be devoted to the National Federation of Obstetric-Gynecologic Societies. Dr. W. K. Strother, Jr., 4227 Herschel Avenue, Dallas, is chairman on membership for the congress in this area, and will supply further details.

American Public Health Association, Atlantic City, N. J., October 6-10.—Papers and scientific exhibits will emphasize the progress in public health during the past seventy-five years. Inspection trips, a motion picture theater, health education and publicity headquarters, and entertainment are being arranged. Twelve related organizations will participate. Additional information may be secured from the Association 1790 Broadway, New York 19.

The Cullen Foundation to support education, hospitals, and charities has been established with a gift from Mr. and Mrs. H. R. Cullen, Houston, of oil royalties estimated to amount to $80,000,000, according to the Houston *Press*. Mr. and Mrs. Cullen have long been noted for their generous contributions to civic projects, and have donated many millions of dollars to the Texas Medical Center, Baylor University College of Medicine, the Gonzales Warm Springs Foundation for Crippled Children, the University of Houston, and other institutions. The foundation's fund, the fourth largest recorded public trust in America, will be administered by a board of trustees, who will specify the beneficiaries of the foundation.

The M. D. Anderson Hospital for Cancer Research, Houston, has been given a two-story brick apartment building by Lamar Fleming, Jr., Houston, president of Anderson, Clayton and Company, informs the Houston *Post*. The new building will be used as a convalescent home for ambulatory cancer patients and will eventually include occupational therapy courses for such patients. Remodeling and equipment costs will be covered by gifts, the first of which is $250 from the Oran M. Roberts chapter of the United Daughters of the Confederacy.

A scientific symposium on "Recent Advances on Cancer Research" was held at the M. D. Anderson Hospital, May 3, under the direction of Fritz Schlenk, Ph. D., chief biochemist for the hospital, according to information from the University of Texas Medical Branch.

The Fort Worth Tumor Clinic, beginning operation at the City-County Hospital, will be under the direction of Dr. Helen Reller Gottschalk, formerly resident dermatologist at Barnard Free Skin and Cancer Hospital, St. Louis, the Fort Worth *Star-Telegram* reports.

One hundred units of radium, dedicated as a memorial to the late Dr. H. B. Trigg, Fort Worth, have been contributed through the Fort Worth Cancer Society for use in treatment of charity patients at the new clinic, Dr. Porter Brown, Fort Worth, chairman of the medical directors' committee of the society, has announced.

The Dallas Health Museum has recently received two special grants, states the Dallas *News*. Dr. and Mrs. V. R. Hurst, Longview, have offered to underwrite an extensive exhibit on old age, with special

reference to the eyes. Mrs. Emma T. Hiler, Hobbs, N. Mex., has contributed an undisclosed amount to provide permanent scientific equipment.

The Houston Surgical Society, recently organized "to further and maintain high quality and standards among practicing Houston surgeons, to promote scientific knowledge in surgery, and to stimulate advanced training in this specialized field," has elected officers, reports the Houston *Post*. Dr. Henry A. Petersen is president; Dr. George W. Waldron, vice-president; Dr. Granville Q. Adams, secretary; and Dr. T. H. Compere, treasurer.

Baylor University College of Medicine, Houston, has established a fellowship in urology in memory of the late Dr. John M. Trible, professor of urology at the college, according to *Medical Record and Annals*. A cumulative fund has been set up by trustees of the college, income from which will be used to provide advanced training in urology for young physicians.

The University of Texas Medical Branch Galveston, has recently received a grant of $10,000 from the U. S. Public Health Service to support studies of Dr. Chester N. Frazier on experimental vascular syphilis.

Chauncey D. Leake, Ph. D., vice-president and dean of the Medical Branch, gave the annual Phi Beta Pi medical fraternity lecture at the University of Colorado School of Medicine, Denver, on April 9.

Dr. Ardzroony Packchanian, director of the Microbiology Laboratory at the Medical Branch, spent several weeks in April and May as visiting lecturer in tropical medicine at the Universidad de Nuevo Leon School of Medicine, Monterrey, Mexico.

PERSONALS

Dr. Walter G. Stuck, San Antonio, was speaker for an orthopedic symposium at the National University of Mexico in Mexico City, March 20, the Southern Medical Association reports.

Dr. O. M. Marchman, Dallas, was honored on his seventy-fifth birthday April 5 at a surprise luncheon, sponsored by the Dallas Medical Service Society and attended by approximately fifty persons. The society presented Dr. Marchman with a diamond-studded Masonic emblem watch fob, the Dallas *Times-Herald* informs.

Dr. C. M. Hendricks, El Paso, has received a grant from Sharp & Dohme, Philadelphia, to support the clinical study of the use of tyrothricin and other preparations as an aerosol, the pharmaceutical firm has announced.

SOCIETY NEWS

Bell County Society

February 5, 1947

(Reported by J. G. Rodarte, Secretary)

Fractures of Base of First Metacarpal with Special Reference to Bennett's Fracture—H. B. Macey, Temple.
Practical Nutrition (motion picture, courtesy of E. R. Squibb & Sons).

Bell County Medical Society met February 5 in Temple, with thirty-one members and nineteen guests present for the scientific program outlined above. Twelve new members were unanimously elected upon application, and another upon transfer.

April 2, 1947

(Reported by J. G. Rodarte, Secretary)

Radiology As It Relates to Obstetrics—R. D. Moreton and T. F. Bunkley, Temple.
Roentgen Therapy for Lyphoid Hyperplasia of the Nasopharynx —E. E. Seedorf and E. D. McKay, Temple.
The Pathologist and the Tumor Clinic Program—Charles Phillips, Temple.

The papers named above were presented at the April 2 meeting of Bell County Medical Society in Temple.

Brown-Comanche-Mills-San Saba Counties Society

April 14, 1947

(Reported by P. M. Wheelis, Secretary)

Diagnosis of Angina Pectoris—Howard E. Heyer, Dallas.
Experiences with Vagus Resection for Peptic Ulcers—H. Walton Cochran, Dallas.

Sixteen members and visitors were present when Brown-Comanche-Mills-San Saba Counties Medical Society met April 14 at Brownwood for dinner and the program outlined above.

The need of supporting passage of the basic science bill was discussed.

The society voted to award $5 for the best essay on "Why the Private Practice of Medicine Furnishes This Country with the Finest Medical Care," to be judged by a committee of three appointed by the president.

A letter from M. L. Fuller, director of the local health unit, was read. Dr. Fuller stated that vitamins and other items would be available for distribution to needy children by the health unit if the county medical society did not object. No objections were voiced.

Dr. J. C. Terrell, Stephenville, in a letter offered to furnish the meal for the society's outdoor meeting in June. His offer was accepted and the meeting place was tentatively set for Lake Brownwood.

Collin County Society

February 18, 1947

Collin County Medical Society heard F. Friedman, chief of the medical service at the Veterans Hospital, McKinney, when it met February 18 at the McKinney Country Club.

New officers elected in January include J. E. Miller, McKinney, president; F. B. Stafford, McKinney, vice-president; Charles E. Wysong, McKinney, secretary-treasurer; W. S. Wysong, McKinney, Will C. Wright, Farmersville, and H. Dudley Wysong, McKinney, censors; and J. C. Erwin, Jr., McKinney, delegate.

Colorado-Fayette Counties Society

March 4, 1947

(Reported by C. I. Shult, Secretary)

Treatment of Trochanteric Fractures of the Hip (lantern slides)—Walter G. Stuck, San Antonio.

Ten members, the woman's auxiliary, and four guests were present for dinner and an address by Walter G. Stuck, San Antonio, at the March 24 meeting of Colorado-Fayette Counties Medical Society in La Grange. E. R. Svrcek, La Grange, was in charge of the program.

Dallas County Society

March 13, 1947

(Reported by W. W. Fowler, Secretary)

Mental Health in Medicine—Dan Blaine, Chief of Neuropsychiatry, Veterans Administration, Washington, D. C.
Malpractice Prophylaxis—F. E. McLucas, Director, Legal Department, Medical Protective Company.

Fifty-two were present for the meeting of the Dallas County Medical Society on March 13 in the Southwestern Medical College Auditorium, Dallas, at which John G. Young, president, presided.

Dan Blaine, Washington, D. C., introduced by Guy F. Witt, spoke on the subject named above. His paper was discussed by C. I. Uhler, Ozro T. Woods, and John R. Worley.

F. E. McLucas, who was introduced by Dr. Young, answered questions on malpractice and how to avoid liability. Among his questioners were Marcus S. Seely, Mark L. Welch, and Dr. Worley.

Resolutions on the recent deaths of Dr. W. Edgar Smith and Dr. Robert S. Yancey, both of Dallas, were adopted.

Six visitors were introduced.

March 27, 1947

(Reported by W. W. Fowler, Secretary)

Blood Antigens, Laboratory Aspects—Sol Haberman, Ph. D., Dallas.
Blood Antigens, Practical Applications—J. M. Hill, Dallas.
Incompatible Transfusions, Renal Lesions and Their Management—E. E. Muirhead, Dallas.
Discussion—S. A. Shelburne, Dallas.

Members of Dallas County Medical Society were guests for dinner at Baylor Hospital, Dallas, March 27. The scientific program was presented by members of the hospital staff. The vice-president, J. H. Shane, Dallas, presided over the 130 members present.

Twenty-three new members were elected upon application, and one member was accepted by transfer. J. C. Hennen, Garland, was recommended for honorary membership.

The society unanimously adopted an amendment to the Constitution providing for an executive council to act between meetings and to make recommendations. A resolution on the death of Dr. George T. Caldwell, Dallas, was also unanimously adopted.

April 10, 1947

(Reported by W. W. Fowler, Secretary)

Medical Aspects of Peripheral Vascular Disease—Howard Heyer, Dallas.
Influence of Tobacco on Vascular Disease—W. Gordon Maddox, Dallas.
Role of Sympathectomy in Arteriosclerotic and Postthrombotic Syndromes—Harry Nelson, Dallas.
Role of Sympathectomy in Vasospastic Syndromes—Leroy Kleinsasser, Dallas.
Discussion—George Schenewerk and Frank Selecman, Dallas.

Eighty-six members of Dallas County Medical Society met April 10 for the scientific program indicated. Mrs. Marguerite Hays, Dallas, spoke briefly on the Dallas Health Museum financial campaign.

Two members were elected upon application, and five physicians attending for the first time were introduced.

It was agreed to hold no regular meetings in July or August.

President John G. Young, Dallas, who presided, commended Mr. Louis Waters for the installation of a telephone for the use of physicians in the lobby of the Southwestern Medical College Auditorium and of a public address system in the auditorium, where the meeting was held.

Eastland-Callahan Counties Society

April 15, 1947

(Reported by M. L. Stubblefield, Secretary)

Operations Crossroads (motion picture)—J. R. Maxfield, Jr., Dallas.
Lesions of the Cervix—W. S. Guerriero, Dallas.
Diagnostic Problems in Cancer—J. R. Maxfield, Jr., Dallas.

Eastland-Callahan Counties Medical Society met April 15 at Ranger for a banquet and the program outlined above. Wives of members were also present.

Ellis County Society

April 9, 1947

(Reported by B. C. Wallace, Jr., Secretary)

Murine Typhus Fever, with Report of Treatment of Cases with Para-Aminobenzoic Acid—B. C. Wallace, Jr., Waxahachie.

A luncheon meeting of Ellis County Medical Society was held in Waxahachie on April 9. The paper named above was read, and a discussion of the basic science bill was held. It was decided to write the Senator from the district, again urging his support of the bill. It was voted to request publication of an editorial concerning the bill in the Ellis County newspapers, and to encourage such publication from time to time of material concerned with public health and the progress of medical science.

El Paso County Society

March 11, 1947

(Reported by W. Compere Basom, Secretary)

Common Conditions Causing Acute Abdominal Distress—H. H. Varner, El Paso.
Discussion—C. E. Webb, F. P. Miller, J. J. Gorman, J. L. Green, and E. K. Armistead, all of El Paso.

J. E. Morrison, El Paso, president presided over the March 11 meeting of El Paso County Medical Society in El Paso. The paper named above was read, and Robert Homan, El Paso, spoke urging action to secure support of the basic science bill.

Jack R. Ellis was elected unanimously to membership upon application. The resignation of T. E. Scott, El Paso, because of poor health was accepted.

March 25, 1947

(Reported by W. Compere Basom, Secretary)

The Rh Factor in Obstetrics—Jesson L. Stowe, El Paso.
Discussion—F. A. Snidow and L. O. Dutton, El Paso.

El Paso County Medical Society on March 25 in El Paso heard an analysis by Jesson L. Stowe of 423 consecutive deliveries in which the fathers, mothers, and children all had Rh factor determinations.

Ralph Homan presided over a business meeting in which was read a letter by Louis W. Breck, El Paso, secretary-treasurer of the Southwestern Medical Association, expressing the hope that Arizona would again join El Paso County Medical Society and the New Mexico State Medical Society in the Southwestern Association to improve its clinical meetings and to resume the publication of *Southwestern Medicine*.

The resignation of Irving McNeil, El Paso, was accepted. A motion was unanimously passed to elect Dr. McNeil to honorary membership in view of his almost forty years of association with the society.

April 8, 1947

(Reported by W. Compere Basom, Secretary)

Cancer of the Corpus Uteri—A. S. Arneson, St. Louis.

Cancer Week was observed by El Paso County Medical Society on April 8 when A. S. Arneson, St. Louis, guest of the El Paso County Medical Society Tumor Clinic, presented the program.

Hill County Society

March 14, 1947

Basic Science Bill—G. V. Brindley, Temple.
American Cancer Society Program—Gordon Singleton, Ph. D., Belton.
Mechanism of Head Injuries—G. J. Ehni, Temple.
Present Treatment of Syphilis—E. N. Walsh, Temple.

Hill County Medical Society met in Hillsboro on March 14 for the program outlined above. The society went on record in support of the basic science bill. Joseph L. Guffy, Hillsboro, was elected to membership.

Jefferson County Society

March 10, 1947

The General Practitioner on the Horizon—B. E. Pickett, Sr., Carrizo Springs.

Jefferson County Medical Society was host to about one hundred physicians from throughout the Tenth District at a dinner in Beaumont on March 10. B. E. Pickett, Sr., Carrizo Springs, President-Elect of the State Medical Association, was the honor guest. He spoke on the importance of the general practitioner, and more briefly on socialized medicine, the proposed basic science legislation, and other matters of current interest to the medical profession.

Johnson County Society

March 11, 1947

Hardening of the Arteries of the Brain in Elderly Persons—W. P. Ball, Cleburne.

Thirteen members and guests of the Johnson County Medical Society were present at the Hanna Hospital, Glen Rose, on March 11 for a dinner at which Dr. and Mrs. J. J. Hanna and Dr. Mildred Hanna were hosts. After a buffet meal, J. W. Pickens, Cleburne, vice-president, called the meeting to order.

Following presentation of the paper named above, E. L. Durrill, Cleburne, led a discussion concerning

the requirements to be met by Johnson County in order to receive state funds for organizing and operating a health unit. J. G. Little, Cleburne, then presented a clinical case for general discussion.

Lubbock-Crosby Counties Society

April 1, 1947

(Reported by O. R. Hand, Secretary)

Management of Intra-Ocular Foreign Bodies—Ben B. Hutchinson, Lubbock.

Lubbock-Crosby Counties Medical Society met in Lubbock on April 1 with twenty-four present. R. C. Douglas, vice-president, presided.

Ben B. Hutchinson, Lubbock, discussed intra-ocular foreign bodies, explaining that the presence of such a body must be demonstrated, localized, its nature determined if possible, and a surgical procedure chosen. History, roentgenologic techniques, and various methods of examination of the eye help to solve the problems. Diverse types of cases were reviewed, definitive methods of management and after care discussed, and anticipated results considered.

A motion was passed that a committee be appointed to confer with the Chamber of Commerce concerning the possibility of procuring the hospital at South Plains Army Air Field for a tuberculosis hospital. W. H. Gordon, C. C. Mansell, and M. M. Ewing, all of Lubbock, were appointed.

The status of the basic science bill was discussed, and a motion was passed that three or more representatives be sent to Austin to contact Legislators in behalf of the bill.

Nueces County Society

March 11, 1947

(Reported by R. J. Sigler, Secretary)

Principles Underlying Renal Calculi—Vincent Vermooten, Dallas.

Vincent Vermooten, Dallas, was guest speaker for a program on urological surgery presented under the direction of A. J. Ashmore, Corpus Christi, when Nueces County Medical Society met in Corpus Christi on March 11.

More than seventy-five members were present. The society voted to assist the schools and parent-teacher organizations in conducting physical examinations of students for a pre-school health round-up.

Pecos-Jeff Davis-Presidio-Brewster Counties Society

April 6, 1947

(Reported by W. E. Lockhart, Secretary)

Contracted Pelvis. Emphasizing Contractures of the Midplane—C. R. Sutton, Jr., Marfa.

Eight members and four guests of Pecos-Jeff Davis-Presidio-Brewster Counties Medical Society were present for dinner and a program arranged by C. R. Sutton, Jr., Marfa, on April 6 at Marfa. Dr. Sutton presented the paper named above, illustrating his remarks with a model of a normal female pelvis. A discussion by W. E. Lockhart, Alpine; Malone V. Hill, Alpine; D. O. Jeter, Alpine; and John W. O'Donnell, Alpine, followed the paper.

Dr. O'Donnell, recently retired from the Army Medical Corps and now practicing in Alpine, was elected to membership. James H. Blackwell, Marfa, also recently retired from the Army, was elected to honorary membership in the county society and was nominated for honorary membership in the State Medical Association.

The society authorized the secretary to invite dentists and their wives to attend meetings of the medical organization.

Tarrant County Society

March 4, 1947

(Reported by W. P. Higgins, Jr., Secretary)

Dr. Frank D. Boyd: Biographical Sketch—Charles E. Ball, Fort Worth (presented by C. P. Schenck. Fort Worth).

Administration of Sodium Chloride Postoperatively—C. Moyer, Dallas.

The program outlined was presented for Tarrant County Medical Society on March 4 in Fort Worth. J. A. Hallmark, Fort Worth, presided.

March 18, 1947

(Reported by W. P. Higgins, Jr., Secretary)

Dr. George D. Bond: Biographical Sketch—Porter Brown, Fort Worth.

The Private Physician's Attitude toward School Health Work—I. P. Barrett, Fort Worth.

The Problem of Acute Infectious Hepatitis—Ray Brasher, Fort Worth.

Thirty-nine members and three visitors were present for the March 18 meeting in Fort Worth of Tarrant County Medical Society, at which the program outlined above was given.

A letter from the Fort Worth Chamber of Commerce, requesting endorsement by the medical society of the location in Fort Worth of a Veterans Administration "feeder hospital," was read. It was decided to notify the membership that the matter would be considered at the next meeting of the society.

Louis J. Levy, Fort Worth, gave an analysis of the poliomyelitis cases of the area during 1946 and offered a resolution requesting that the medical society recommend to the city and county governments that a one-hundred bed communicable disease hospital be built and operated on the grounds of the City-County Hospital for patients with poliomyelitis and other communicable diseases, and that to care for such patients before the new hospital could be built, temporary facilities be made available not later than May, 1947. A general discussion by members of the society and Mr. Goldman Drury, administrator of City-County Hospital, resulted in adoption of the resolution. It was agreed that a committee should be appointed to present the matter to city and county authorities, and that the resolution should be brought to the attention of the press.

John L. Hopson and George H. Petta, both of Fort Worth, were elected to membership upon application.

April 1, 1947

(Reported by W. P. Higgins, Jr., Secretary)

Dr. O. F. Carlson: Biographical Sketch—E. C. Schoolfield, Fort Worth.

Rhinoplasty—A. D. Roberts, Fort Worth.

Congenital Anomalies of the Kidneys in Primipara—R. S. Mallard, Fort Worth.

Reconstruction of the Hand (motion picture)—J. R. Cochran, Fort Worth.

Sixty-one members of Tarrant County Medical Society heard the program outlined above when they met in Fort Worth on April 1. William M. Crawford, member of the program committee, presided.

During the business session, the society endorsed the location in Fort Worth of a "feeder hospital" by the Veterans Administration. The action followed a full, general discussion.

C. S. E. Touzel, Fort Worth, reported for a special committee that the City Council and County Commissioners' Court had been cordial in their reception of the medical society's recommendation that a communicable disease hospital be built and that temporary quarters be supplied this year, and that the two bodies had promised to take action to provide for such facilities. Upon motion by C. O. Terrell, Fort Worth, it was agreed to retain the special committee until the hospital is completed.

Tribute was paid to Mrs. Amanda Bursey, mother of E. H. Bursey, Fort Worth, who died March 19.

Tom Green-Eight County Society

March 3, 1947

(Reported by H. M. Anderson, Secretary)

Split Thickness Skin Grafting—P. M. Wheelis, Brownwood.

Problems Facing the Medical Profession Today: Socialized Medicine and the Basic Science Bill—O. N. Mayo, Brownwood.

Tom Green-Eight County Medical Society met in

San Angelo on March 3 for a program by two Brownwood physicians. Thirty members and guests were present.

The society voted to instruct the secretary to write the State Representatives of the area that the organization favors passage of the bill to create additional tuberculosis sanatoriums.

A resolution on the death of Dr. J. S. Hixson, San Angelo, was adopted.

Wichita County Society

March 11, 1947

Common Eye Conditions Met with in General Practice—A. E. Meisenbach, Jr., Dallas.
Newer Concepts of Electrocardiography—R. H. Bayley, Norman, Okla.

The program outlined above, arranged by James T. Lee, Wichita Falls, was presented for approximately fifty members of Wichita County Medical Society on March 11 in Wichita Falls. J. B. Nail, Wichita Falls, president, presided.

Williamson County Society

March 11, 1947

The Intervertebral Disk—Herbert Hipps, Waco.
Upper Urinary Tract Infections—Moreton Magid, Waco.

Williamson County Medical Society members and their wives had a steak dinner at Taylor on March 11, followed by the scientific program outlined above.

The society also heard a plea by Mr. Ralph Fikes, father of a spastic child, that the group endorse passage of a bill, currently in the Legislature, providing for a hospital for spastics. The society voted to support the bill.

Third District Society

April 8-9, 1947

(Reported by George L. Powers, Secretary)

The Third District Medical Society met in Amarillo on April 8-9 with 118 physicians in attendance. Ten commercial concerns had exhibits.

New officers elected during the session include C. E. High, Pampa, president; R. Ernest Clark, Memphis, vice-president; Kenneth Flamm, Amarillo, secretary; and H. H. Latson, Amarillo, councilor.

Following the presidential address by W. A. Carroll, Claude, the group held sectional meetings. A banquet the evening of April 8 featured addresses by Tate Miller, Dallas, and B. E. Pickett, Sr., Carrizo Springs, President-Elect of the State Medical Association, followed by a dance.

The scientific program was as follows:

April 8

MEDICAL SECTION

Ben T. Blackwell, Amarillo, Chairman
W. C. Dine, Amarillo, Secretary

Chairman's Address—Ben T. Blackwell, Amarillo.
Some Observations on Cardiac Neurosis—David Marcley, Amarillo.
Discussion—H. H. Latson, Amarillo.
Future of Rheumatic Fever in Texas—Walter B. Whiting, Wichita Falls.
Discussion—Elmer K. Jones, Wellington.
Reduction of Intussusception with Controlled Barium Enema—Samuel C. Arnett, Lubbock.
Discussion—M. C. Overton, Jr., Pampa.
Pneumococcus Meningitis—Pauline Miller, Lubbock.
Discussion—George M. Cultra, Amarillo.
What's New in Peptic Ulcer?—Tate Miller, Dallas.
Discussion—H. B. O'Neill, Plainview.

EYE, EAR, NOSE, AND THROAT SECTION

Frank Duncan, Amarillo, Chairman
W. O. Murphy, Amarillo, Secretary

Chairman's Address—Frank Duncan, Amarillo.
Relation of Some Skin Diseases to the Eye—Fred Crumley, Amarillo.
Discussion—Fred Standifer, Lubbock.
Blepharoclonus- Dan Gilkerson, Amarillo.
Discussion—Ben Hutchinson, Lubbock.
Croup—F. R. Landon, Wichita Falls.
Discussion—Frank B. Malone, Lubbock.
Tracheotomy—Emerson M. Blake, Lubbock.
Discussion—C. E. High, Pampa.
Association of Latent Vertical Phona with Endocrine Dysfunction—E. H. Coachman, Muskogee, Okla.
Discussion—Frank B. Duncan, Amarillo.
Meniere's Syndrome—R. B. Payne, Amarillo.
Discussion—E. M. Blake, Lubbock.

April 9

SECTION ON OBSTETRICS AND GYNECOLOGY

Howard Puckett, Amarillo, Chairman
Kenneth Flamm, Amarillo, Secretary

Chairman's Address—Howard Puckett, Amarillo.
Treatment of Cervicitis—W. Calvin Jones, Pampa.
Discussion—O. N. Hooker, Amarillo.
Early Diagnosis of Cancer of the Uterus—Denton Kerr, Houston.
Discussion—W. A. Potter, Amarillo.
Treatment of Uterine Hemorrhage in Gynecology—W. A. Diddle, Dallas.
Discussion—Ernestine Smith, Amarillo.
The Rh Problem—George M. Waddill, Amarillo.
Discussion—Jason H. Robberson, Amarillo.

SURGICAL SECTION

A. B. Goldston, Amarillo, Chairman
R. P. Black, Amarillo, Secretary

Chairman's Address—A. B. Goldston, Amarillo.
Fractures: Small Bones of the Hand—Eugene Legg, Dallas.
Discussion—J. H. Hansen, Plainview.
Anorectal Complications—Tom Smith, Dallas.
Discussion—Ben T. Blackwell, Amarillo.
Thrombosis of Extremities with Pulmonary Emboli—A. E. Winsett, Amarillo.
Discussion—Don Marsalis, Amarillo.
Treatment of Surgical Shock—Lee Hale, Lubbock.
Discussion—Sam Dunn, Lubbock.

AUXILIARY NOTES

Officers of the Woman's Auxiliary to the State Medical Association of Texas: President, Mrs. George Turner, El Paso; President-Elect, Mrs. Edward C. Ferguson, Beaumont; First Vice-President, Mrs. L. B. Windham, Tyler; Second Vice-President, Mrs. V. M. Longmire, Temple; Third Vice-President, Mrs. R. E. Clark, Memphis; Fourth Vice-President, Mrs. J. E. Hogan, Big Spring; Corresponding Secretary, Mrs. Robert F. Thompson, El Paso; Recording Secretary, Mrs. M. A. Ramsdell, San Antonio; Publicity Secretary, Mrs. J. F. Campbell, Fort Worth; Treasurer, Mrs. Guy Jones, Dallas; Parliamentarian, Mrs. Joe Nichols, Atlanta.

The A. M. A. Auxiliary has issued a final call for women who expect to attend its annual meeting in Atlantic City, N. J., June 9-13, to make reservations. The twenty-fourth session of the national organization will be held in conjunction with the American Medical Association meeting commemorating its one hundredth anniversary, and hotel facilities will be crowded.

AUXILIARY NEWS

Bell County Auxiliary entertained the medical society with a dinner dance at Temple on March 14. About eighty persons were present. The table was covered with a printed cloth, and yellow daffodils and ivy were used for decoration.

Dawson - Lynn - Terry - Gaines - Yoakum Counties Auxiliary was organized April 9 at Lamesa following a banquet held jointly with the Medical Society. Mrs. A. J. Cooper, Midland, presided and Mrs. L. E. Standifer, Lamesa, acted as secretary. Mrs. Emil Prohl and Mrs. F. E. Seale, both of Tahoka, served on the constitution and by-laws committee. The thirteen charter members elected the following officers: Mesdames A. L. Bradford, Seagraves, president; L. E. Standifer, Lamesa, first vice-president; F. E. Seale, Tahoka, second vice-president; N. H. Price, Lamesa, third vice-president; A. H. Daniell, Brownfield, fourth vice-president; Carl Gerrardy, Seagraves, secretary-treasurer. Drs. L. E. Standifer, Lamesa; A. L. Bradford, Seagraves; and A. H. Daniell, Brownfield, were named to the advisory council. The meeting was held in the home of Mrs. Sam Frazier, who served a refreshment plate.—Mrs. A. J. Cooper.

El Paso County Auxiliary elected officers March 10 at the Turner Memorial Home, El Paso. Those named include Mesdames Arthur P. Black, president; Wal-

ter Stevenson, president-elect; John D. Martin, first vice-president; Leslie Smith, second vice-president; Delphin von Briesen, third vice-president; E. G. Causey, recording secretary; F. A. Snidow, corresponding secretary; N. F. Walker, treasurer; S. J. Gaddy, J. J. Gorman, A. D. Long, and H. H. Varner, directors.

El Paso County Auxiliary members honored their husbands on National Doctor's Day, March 29, at a cocktail supper in El Paso. Mrs. R. B. Homan, Jr., was general chairman, assisted by Mesdames J. Leighton Green, James J. Gorman, Russell Deter, and C. D. Hunter. Mrs. S. J. Gaddy, local president, and Mrs. George Turner, state president, greeted the guests. Other members of the house party included members of the board of directors and officers. Fruit and vegetable arrangements on colorful cloths, tin candle holders, and hurricane lamps were used for decoration.—Mrs. J. D. Martin, Publicity Chairman.

Jefferson County Auxiliary members entertained their husbands with a party March 4 at the Port Arthur Club in the Goodhue Hotel, Port Arthur. Hostesses were Mesdames Clifford Painton, L. R. Byrd, Jr., L. C. Heare, J. Milton White, Dwight Curry, F. J. Beyt, G. R. Solis, and I. T. Young.

Kerr-Kendall-Gillespie-Bandera Counties Auxiliary has reported the death on November 22, 1946, of *Mrs. P. J. Domingues*, Kerrville, aged 75, a charter member of the auxiliary and its president both in 1941 and 1942. Mrs. Domingues is survived by her husband and a daughter, Mrs. Alice Jobes, both of Kerrville.

McLennan County Auxiliary met March 26 at the Fish Pond clubhouse, Waco, for brunch. Thirty-five members were present, with Mesdames C. J. Traylor (chairman), W. G. Trice, H. Jaworski, H. F. Germany, Ernest Johnson, and W. F. Hoehn as hostesses.

New officers were elected as follows: Mesdames Stanley Howard, president; J. E. Talley, first vice-president; A. O. Manske, second vice-president; Tom Oliver, third vice-president; Ray Bullard, fourth vice-president; Tom Husbands, recording secretary; C. J. Traylor, corresponding secretary; S. R. Mortland, treasurer; R. Spencer Wood, parliamentarian; F. F. Kirby, publicity; and W. A. Wood, historian.

The auxiliary voted to donate $10 to the Memorial Fund, $10 to the Package Service Library Fund, $25 to the Student Loan Fund, and $10 to the Red Cross.

The high school male quartet sang several numbers.

Nolan-Fisher-Mitchell Counties Auxiliary was reorganized with fifteen charter members on April 14, at Sweetwater, with Mrs. A. J. Cooper, Midland, acting as organizational chairman. Mrs. Cooper introduced Mrs. George Turner, El Paso, State Auxiliary President; Mrs. J. E. Hogan, Big Spring, fourth vice-president of the State Auxiliary; and Mrs. H. B. Trigg, Fort Worth, regional director of cancer control, all of whom spoke to the group. Mrs. Harry A. Briggs, Midland, was also introduced.

Mrs. Bruce H. Johnson, Loraine, and Mrs. J. E. Peavy, Jr., Sweetwater, were appointed by Mrs. Cooper as a committee to recommend approval of, or changes in the constitution. Upon their recommendation, the group adopted the constitution with minor revisions.

Officers nominated by a committee composed of Mesdames J. W. Young, Roscoe; A. H. Fortner, Sweetwater; and C. U. Callan, Rotan, were unanimously elected as follows: Mesdames S. F. Supowit, Sweetwater, president; T. D. Young, Roscoe, first vice-president; H. A. Logsdon, Colorado, second vice-president; J. K. Richardson, Sweetwater, third vice-president; R. O. Peters, Sweetwater, fourth vice-president; and Dale F. Johnson, Loraine, secretary-treasurer. Mrs. Johnson had served as temporary secretary for the organizational meeting. Drs. J. W. Young, Roscoe; A. H. Fortner, Sweetwater; and C. U. Callan, Rotan, were named as an advisory council.—Mrs. A. J. Cooper.

Orange County Auxiliary met April 7 in Orange for a business session to discuss the district auxiliary meeting, which was held in Orange April 11-12. Mrs. O. C. Seastrunk entertained in her home, with Mrs. C. B. Shaddock as cohostess. Mrs. T. O. Woolley, Orange, president, presided.—Mrs. O. C. Seastrunk.

Washington County Auxiliary held a luncheon meeting in Brenham early in April with Mrs. W. F. Hasskarl, Brenham, president, presiding. Plans for the district meeting, to be held in Orange, were discussed. Mrs. C. E. Southern, Burton, program chairman, passed out selected articles on medicine and health to members of the auxiliary, who read them for the group.

Eighth, Ninth, and Tenth Districts Auxiliary met in Orange on April 11-12, with Mrs F. J. L. Blasingame, Wharton, president, presiding. Mrs. M. L. Graves, Houston, offered the invocation and explained the Student Loan Fund of which she is chairman. Mrs. T. O. Woolley, Orange, president of Orange County Auxiliary, welcomed the visitors, and Mrs. C. E. Southern, Burton, replied. Reports were given by the officers of both the district and the county auxiliaries.

Nominations presented by Mrs. Mark H. Latimer, Houston, chairman of the nominating committee, were accepted, and the new officers were introduced as follows: Mesdames Southern, president; Hugh Alexander, Beaumont, president-elect; H. B. Bridges, Pelly, first vice-president; W. S. Thiltgen, El Campo, second vice-president; Paul Brindley, Galveston, third vice-president; E. R. Richter, Dayton, treasurer; J. G. Heard, Houston, recording secretary; E. T. Smith, Houston, press secretary; Harvey Ringer, Hallettsville, parliamentarian; W. F. Hasskarl, Brenham, corresponding secretary.

A new nominating committee composed of Mesdames L. L. D. Tuttle, Houston; Wynne Pearce, Orange; John L. Otto, Galveston; and Joe Burch, Lufkin, was elected.

At a luncheon, a musical program was presented by Mrs. E. I. Hardy, vocalist, accompanied by Mrs. Hal G. Carter. Dr. F. J. L. Blasingame, Wharton, councilor of the Eighth District, was the speaker.

Members of the auxiliary and of the medical society were entertained at the Orange Naval Base with a reception aboard the flagship of the Texas Group, Sixteenth Fleet, and a cruise of the Orange waterfront area.—Mrs. O. C. Seastrunk.

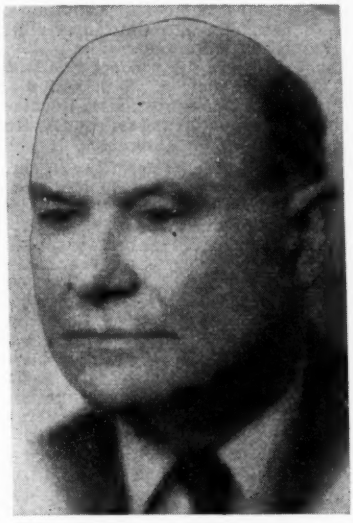
The Eleventh District Auxiliary met in Tyler, March 14, with Mrs. George W. Hilliard, Jacksonville, president and council woman, presiding. Reports from three county auxiliary presidents indicated that each was working in support of the basic science bill. It was reported that Houston County Auxiliary had reorganized. The women were entertained at luncheon and at a buffet supper and dance. Members of the Eleventh District Medical Society, meeting the same day, were also present for the supper and dance, at which Dr. Claude C. Cody, Jr., Houston, President of the State Medical Association, and other special guests were honored.

New officers of the auxiliary were elected as follows: Mrs. E. H. Caldwell, Tyler, council woman; Mrs. J. L. Dean, Jr., Crockett, first vice-president; Mrs. T. H. Cobble, Rusk, second vice-president; Mrs. R. H. Hodge, Athens, third vice-president; Mrs. T. M. Jarmon, Tyler, corresponding secretary and treasurer; Mrs. J. T. Boyd, Jacksonville, recording secretary; Mrs. W. H. Sory, Jacksonville, parliamentarian; Mrs. J. M. Travis, Jacksonville, reporter; and Mrs. Paul B. Stokes, Crockett, historian.—Mrs. J. M. Travis, Reporter.

DEATHS

Dr. James Milton Campbell, vice-president of the State Medical Association, died March 24, 1947, at his home in Goldthwaite, Texas, of acute carcinoma.

Son of Mr. and Mrs. G. M. Campbell, Dr. Campbell was born February 3, 1874, in Meridian. He attended public school there and received his medical education at the University of Texas medical department, Galveston, being graduated in 1896. He served an internship at John Sealy Hospital, Galveston, and practiced for a short time at Kopperl and at Meridian before locating in 1907 at Goldthwaite.



DR. JAMES MILTON CAMPBELL

Throughout his professional life Dr. Campbell was a member of the State Medical Association and American Medical Association. He was a member of the Bosque County Medical Society for a short time, and had been a member for many years of the Brown-Comanche-Mills-San Saba Counties Medical Society, serving as president in 1938. He was vice-president of the State Medical Association for 1946-1947, and had been nominated for honorary membership in that organization by his county medical society. The nomination would have been acted upon at the 1947 annual session. Dr. Campbell was also a member of the Fourth District Medical Society. He was local surgeon for the Santa Fe Railway for forty years. He was a past worshipful master and high priest of the Masonic order. He was chairman of the board of directors of the Trent State Bank. During World Wars I and II, Dr. Campbell was on the local Selective Service board.

Dr. Campbell married Miss Gertrude Allen Gardner on March 30, 1907, in Fort Worth. He is survived by his wife; one daughter, Mrs. Raymond Little; and one son, Allen Campbell, all of Goldthwaite; two sisters, Mrs. J. T. McConnell, Meridian, and Mrs. M. C. Sanders, Arlington; and one brother, A. D. Campbell, Meridian.

Dr. Percy Ray Cruse, Houston, died March 28, 1947, of a cerebral hemorrhage.

Dr. Cruse was born December 19, 1887, in Liberty County, Texas, the son of Mr. and Mrs. W. M. Cruse. He attended Baylor University, Waco, and received his doctor of medicine degree from the old Memphis Hospital Medical College, Memphis, Tenn., in 1912. After serving a one year internship at the Memphis City Hospital, Dr. Cruse returned to Texas and began practice in Houston, where he was active until his death. In 1916, he and three other physicians founded the Houston Clinic, with which Dr. Cruse was associated until 1934, when he entered private practice. He was also chief consulting surgeon for the Burlington-Rock Island Railroad.

Throughout his professional life, Dr. Cruse was a member of Harris County Medical Society, the State Medical Association, and American Medical Association. He was also a member of the Southern Medical Association, Post Graduate Medical Assembly of South Texas, and Texas Railway and Traumatic Surgical Association. He was a member of the Episcopal Church.

DR. PERCY RAY CRUSE

On February 22, 1916, Dr. Cruse married Miss Ultima Green of Houston. He is survived by his wife; one daughter, Miss Carolyn Cruse; and three sons, Sam W. Cruse, Dr. Ray Cruse, and Burton Cruse, all of Houston; and three brothers, E. M. Cruse, Houston; R. L. Cruse, Texas City; and Dr. Sam G. Cruse, Cleveland.

Dr. Charlie Welton Evans, Sr., Apple Springs, Trinity County, Texas, died March 1, 1947, after a long illness.

Dr. Evans, son of Mr. and Mrs. Tom Evans, was born at Kountze on August 22, 1878. He attended schools in Dallas and in Memphis, Tenn., securing his medical education at Memphis Hospital Medical College. About 1910 he became a physician for a lumber company in East Texas, and continued this type of association for more than thirty years. During this period he spent about ten years at Helmic and Groveton in Trinity County, eighteen years at Alcedo and Fastrill in Cherokee County, and one year at Honey Island in Hardin County. For the past five years, Dr. Evans was in private practice at Apple Springs.

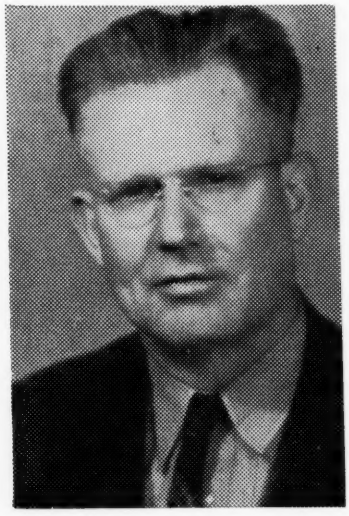
DR. C. W. EVANS

Throughout most of his professional career Dr. Evans was a member of the State Medical Association, and American Medical Association, first through Trinity County Medical Society and then through Cherokee County Medical Society. He was a member of the Baptist Church and a ninth degree, Royal Arch Mason.

Dr. Evans married Miss Byrd Stewart in Woodville, February 2, 1908. He is survived by his wife; a son, Dr. C. W. Evans, Jr., Lufkin; one brother, Henry Evans, Woodville; and one sister, Mrs. Jane Eaves, Woodville.

Dr. Charles Michael Kent, Kenedy, Texas, died February 28, 1947, of cerebral hemorrhage.

Dr. Kent was born January 27, 1889, at Kilmichael, Miss., the son of John Thomas and Frances Kent. He attended the local public schools, the University of Mississippi, and was graduated from the medical department of Tulane University, New Orleans, in 1915. After serving an internship at Sunset Hospital, Houston, Dr. Kent located in Kenedy, where he was in practice until his death. He owned and operated the Kenedy Clinic and Hospital, and at one time the Kenedy mineral wells.



DR. CHARLES M. KENT

Almost continuously throughout his professional career, Dr. Kent was a member of the State Medical Association and American Medical Association through the Karnes-Wilson Counties Medical Society. He was president of the county society from 1941 through 1945. He was a member of the Methodist Church and the Rotary Club. During World War I he was a captain in the Army Medical Corps.

On October 20, 1915, at Karnes City, Dr. Kent married Miss Louise Barfield. He is survived by his wife; a son, Charles Michael Kent, Jr., Houston; a sister, Mrs. B. S. Kent, Kilmichael, Miss.; and a brother, Lee Kent, Knoxville, Tenn.

Dr. Walter Shropshire, Yoakum, Texas, died April 3, 1947.

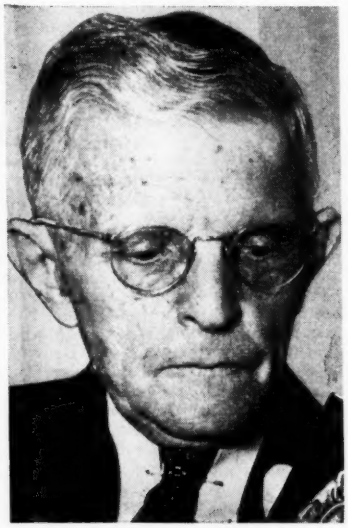
Born near LaGrange on September 15, 1862, Dr. Shropshire was the son of A. C. and Edithy Rebecca Shropshire. He was graduated from the Sam Houston Normal College, Huntsville, in 1886, and from the old Missouri Medical College, St. Louis, in 1890. He had practiced in Yoakum since 1895, having been located in Huntsville, West Point, and Goldthwaite previously.

Almost continuously from the time Dr. Shropshire began practice until 1937, he was a member of the State Medical Association and American Medical Association, first through DeWitt and then through Lavaca County Medical Society. Dr. Shropshire was a trustee of the State Medical Association from 1902 until 1905; councilor of the Eighth District for the years 1903-1904, 1907-1908, and 1911-1917; vice-president of the State Medical Association in 1904-1905 and in 1920-1921; and chairman of the Section on Medicine and Diseases of Children in 1910. He had also been president of the Lavaca County Medical Society. He was for many years a student of malaria, and was elected to honorary membership of Zeta Chapter of Phi Chi medical fraternity at Galveston for his original investigations in malaria. He was a member of the District Board of Medical Examiners. He was a member of the Christian Church, a civic worker, and hunted and fished for recreation.

Surviving Dr. Shropshire are his second wife, the former Miss Mattie M. Haenel, of San Antonio, whom he married in 1898; one daughter, Mrs. Bernice Peacock, of Austin; and four grandchildren. He was preceded in death by an older daughter.

Dr. James E. Wilson died at his home in Lancaster, Texas, on March 8, 1947, of coronary occlusion.

The son of Mr. and Mrs. J. S. Wilson, Dr. Wilson was born at Bastrop, on September 26, 1873. He attended Bastrop public schools, Texas Agricultural and Mechanical College at College Station, and the University of Texas at Austin. His medical education was secured from the Medical Department of the University of Texas, Galveston, from which he was graduated in 1896. He practiced four years at Bastrop; was assistant physician at the State Hospital for the Insane, Terrell, for a short time; practiced in Dallas for about ten years, and moved to Lancaster in 1917. During his stay in Dallas, Dr. Wilson was assistant city health officer for one year. He served as a first lieutenant in the Army Medical Corps for one year during World War I, but was released to return to Lancaster upon petition of the citizens of the community, who were in need of physicians to fight an influenza epidemic. During World War II he served as an examining physician for the local draft board.



DR. JAMES E. WILSON

From 1905 through 1909 and again from 1921 through 1944, Dr. Wilson was a member of the State Medical Association and American Medical Association, for a short time through Grimes and Bastrop Counties Medical Societies and then through Dallas County Medical Society. He was an elder in the Presbyterian Church for twenty-five years, a thirty-second degree Mason, and a member of the Shrine. He had served on the local school board. In January, Dr. Wilson was presented the humanitarian service plaque of the Lancaster Lions Club, of which he was a charter member, and was elected to honorary membership in the club.

Dr. Wilson is survived by his wife, the former Miss Johnie May Blaine, whom he married in 1903 at Dallas.